



## Prize Essay.

### THE ENLISTED SOLDIER.

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OTHER conditions being equal, the best material will make the best soldiery; and in view of the size to which the regular army will always be limited by our political institutions, it is important, first, to determine what is the best material, and how it is to be obtained.

High pay and rigid discipline will convert a thousand illiterate roughs into a very efficient regiment. They will follow where they are led, will obey orders from fear of penalties, and will fight, if not from the love of fighting, at least with brutal recklessness. A thousand collegians, influenced by high motives, will quickly learn their technical duties, will adapt themselves to discipline, and will fight with spirit to the last. But the roughs will lack intelligence and principle, and the collegians will, probably, be unable to endure the physical strain and will grow discontented under prolonged restraint.

#### QUALITIES OF A RECRUIT.

The most efficient regular soldier will be intelligent, moderately well-informed, of sound health, vigorous physique and good habits. The physical qualifications are the most important, for the private soldier is a fighting machine, partly automatic and partly controlled by his officers. It is not enough for a recruit to be free from sickness and of good constitution. That is necessary, but more is required. The man who may pass a long life in a

sedentary occupation, or in one requiring skill rather than vigor, might speedily break down under exposure to hardship or to the tests of severe manual labor. He must be strong and likely to remain strong, as well as free from disease. The age of 18 years at which enlistments are now permitted is too young. Such a recruit is yet a growing lad, liable and almost certain to break down under the strain of an active campaign, if not of ordinary duty. It is true that some youths of 18 have the strength and appearance of men of 22, but they are exceptional. The orders require such recruits to possess all the physical attributes of vigorous men, but the temptation to add a clean-limbed boy to his squad often is too great for the average recruiting officer to resist, even when he is qualified to judge of the effect of strain upon the immature frame. No man should carry a rifle before he is 21, nor then unless he is well knit and at his full height. The old maxim that the strength of a command is measured by the bayonets in the ranks, and not by the names upon the muster-roll, is always true. Twenty-one should therefore be the minimum age, with a preference for twenty-three. The maximum age in peace should be thirty for a first enlistment. An older man who voluntarily enlists for the first time is apt to have some physical or moral defect, probably carefully concealed, that has led to his failure in civil life. He is certainly not so trustworthy in mind or body; the one has become stubborn or unstable, the other stiffened or infirm. These remarks, of course, do not apply to subsequent enlistments, where there should be no limit on account of age alone. The present minimum height, five feet four inches, is a good one; and the ordinary minimum weight should be 128 pounds, with the privilege of accepting a man at 125 pounds, if in all other respects of the first order. The physiological rule of two pounds weight for every inch in height, to include five feet seven inches, and seven pounds for every additional inch, is an excellent one to follow in the selection of recruits. The present limit of 190 pounds for infantry and 165 for mounted troops is very good, and the height should be controlled by the proportion already established. This general height and weight admit of exceptions within narrow limits after the minima are passed.

The details for the physical examination of recruits are provided for in special manuals not proper to be rehearsed here; but recruiting officers should always remember that good feet and



legs, to transport the fighting machine, are essential; that the chest containing the heart and lungs should be ample; and that the arms should be strong. Mere height at the expense of lateral or proportionate development is worthless. The most efficient all-around soldiers are men between 5 feet 6 inches and 5 feet 9 inches—probably 5 feet 7 inches is the best height. There is no reason why every recruit who enters our small regular army in peace should not be of the highest physical development. For these troops are not only often hewers of wood and drawers of water for themselves and their fellows, but are compelled for long consecutive periods to build roads, bridges and barracks, to carry on almost all outdoor work and, besides, to be always ready for true military service. Each garrison is so small that there can be no idlers, no reserve, and every man must do a full man's work.

Civilians who merely see the little scarlet fringe of artillery along our sea-coast, are apt to look upon the whole army as an ornamental body, organized chiefly to participate in parades, funeral and complimentary; to act, in a general way, as a fetich with which to awe possible rioters; and to afford a few counters for officers in the study of theoretical games of war. I have heard travellers denounce cavalry, seen from a trans-continental car-window, as lazy vagabonds. But the army knows that the artillery has worn, as it may again wear, crimson facings dyed in everglades and lava-beds; that the dust of perpetual marches and weary trails, as well as that of its cloud of countless skirmishes, has destroyed all contrast for the cavalry's yellow; and that the infantry, faithful always, fainting never, has traced with its patient columns and dotted with a thousand graves the plains and the defiles of the farther West. In the Division of the Missouri alone, General Sheridan reported more than one thousand officers and men killed and wounded in the four hundred and odd armed collisions that occurred between 1867 and 1882. The scattered army is itself liable to forget how much fighting is constantly being done, and what vastly greater marching and exposure to torrid sun and arctic frost such statistics imply. These points are revived to show that, independently of their severe labors as workmen, the soldiers as soldiers require to be of the finest physique, of the soundest material. There is no *corps d'elite* to receive the picked men. Every recruit should be without a physical flaw and should be fully mature. His bones and his muscles should require only daily repair, not building up anew.

For the field musicians I would draw no such limit of age. The law now permits their enlistment at sixteen years, but the rulings of the recruiting service make it exceedingly difficult for them to enlist under eighteen at all, or as musicians without liability of assignment as privates. This is a mistake. The duties of the two classes are essentially distinct, and music boys can endure what they may be called upon when as privates they would break down. The earlier they are taught the more readily they learn, and, while it is out of the question to make a drummer after twenty years, the best age for such instruction to begin is twelve. I believe the limits between which first enlistments of field musicians can be made should be from fourteen to eighteen, without the power of transfer as privates before the age of twenty-one. I would forbid all enlistments except of band musicians between the ages of eighteen and twenty-one. And to complete the subject of field music, I would have these boys retained two years at depot; they should be quartered by themselves; while there they should be carefully instructed in music at least two hours daily; they should be compelled to spend three hours a day in school, and be brought under the discipline of the rods if necessary; they should be for general fatigue, and be exempt from special fatigue and kitchen police while at depot, and should be carefully instructed by precept as well as by example in the general principles of a soldier's duty. After two years they should be eligible for assignment, and when assigned should be instructed in target practice, but as already observed, should not be transferable as privates. The field music should be drilled in marching, but always in their first enlistment in light marching order only. In severe marches as boys they should be carried. The object of this is to create a small corps of carefully instructed musicians who, at the same time, will afford a nursery for the cultivation of efficient soldiers.

The foregoing remarks apply to the army in peace. For war the conditions, except as to the minimum age, should be relaxed. Many a man who could not be depended upon for the hard work that might fall upon him during nominal peace, could perfectly discharge duties that a large army creates in war. It is economical in the best sense to create battalions like those of the Veteran Reserve Corps for selected duties. These should be of men with minor blemishes and should receive a lower grade of pay, except when wounds on duty cause the defect. But all such



deviations from the normal, with their origin, should be carefully inscribed on the muster-in rolls and the descriptive lists. Thousands of men were enrolled as volunteers during the rebellion who were physically infirm. Doubtless many of those are now pensioners, for memory plays sad havoc with facts where glory and gold together call.

Besides the physical qualifications noted, white recruits in peace should be able to read fairly, to speak and understand English easily, and to write their names. Should, as sometimes happens, a man sign his name mechanically and with no appreciation of detail, he should be required to learn to read and write at depot, and if he fail should be discharged. An enforcement of this rule with the colored regiments would possibly lead to their disbandment. Nevertheless the rule is a good one for peace. Illiterate men are less easily managed and are much less useful.

#### METHODS OF ENLISTMENT.

Following a long and unworthy tradition, recruiting rendezvous are frequently, fortunately not always, fixed in those parts of the great cities where not only the floating population is the greatest, but where the lower haunts of dissipation abound. The chances are in favor of thus acquiring an undue proportion of vicious and reckless men. By establishing the rendezvous in respectable parts of the town, confining them, however, to the sections inhabited by the working classes, and directing attention to them by posted advertisements in all parts of the city, not only a better class of recruits would be acquired, but when enlisted they would be removed from the demoralizing surroundings to which they now are exposed. Doubtless fewer applicants would present themselves, and rent and advertising would be somewhat greater; but the ultimate expense would be less from the character of the recruits and in the service they would render.

Besides the fixed rendezvous in the larger cities, it would probably be advantageous to establish temporary ones in the rural districts. An intelligent and well-behaved recruiting party with a discreet officer in charge, by making a tour through the interior, stopping long enough to become well known and calling attention to their anticipated presence by preliminary advertisements, would do much to dispel the prejudice against the army, would be able to select from a large field, would have excellent

opportunities to investigate the character of applicants, and should easily keep the army full with a good class of native youth. As an old soldier lately remarked to me, "Country boys may not be as smart as those in cities, but neither have they the same education in vice." I know that it will be said that country enlistments are failures, and there will be pointed out as an instance the case of a special rendezvous opened in the interior, from which all the men were sent to one of the larger and more attractive permanent garrisons, and where in turn they all, or nearly all, were promptly discharged. The evil there, as it will be everywhere with inexperienced officers, or those who look upon recruiting as nominal duty and have more regard for numbers than for quality, was that the men were not critically examined. It is useless to accept men as soldiers who are not physically fit. But fit men can be found, and the country contains more of a better class than the cities. There are, however, certain large sections where it is useless to recruit in time of peace. For instance, experience has shown that general recruiting on the Pacific coast will not secure enough men to keep full the regiments stationed there. The most of those men need only a blanket and a rifle to be self-supporting, and as the Government supplies these they decamp as soon as inclination impels. I suspect the same is true of the Rocky Mountain region, but I am not in a position to speak positively.

Peripatetic recruiting parties will probably be refused by the War Department on account of the expense of transportation. But adequate appropriations could doubtless be secured if the congressional committees were made to understand that what was expended in getting these men from all parts of the country would be saved by the infrequency of their desertion. It would be quite possible to try the experiment on a small scale with the funds now at the disposal of the recruiting service. But for its initial success the recruiting party must be selected and be instructed in its work, and rigid inspection is at all times an essential.

The plan of raising certain regular regiments within fixed geographical limits, as occasionally proposed, is not good. Upon such an apportionment, very wide areas—whole States in some cases—would be required to complete the quota, which would defeat the main object of having an intelligent and interested constituency behind them; in other cases entire regiments would



be formed from the city drift; as already seen, there are extensive sections that could not be depended upon at all; and under the most favorable circumstances the demand and supply would be difficult to equalize. But distinctly and fatally the objection would be in their becoming practically local troops; troops who unconsciously would regard themselves as from such and such districts, rather than United States soldiers whose allegiance would be first and always to the whole country. Jealousies would be engendered, congressmen would be applying political methods to secure officers and stations for "their" regiments, and these organizations would ultimately merge their federal in their local character. Such inference is foreshadowed in the following curious explanation made by one of the adjutants-general in the spring of 1861, why a certain large city on the Atlantic coast contained no rendezvous: "The reason why no rendezvous was opened in ——— was, that Hon. ——— applied for the discharge of so many of his constituents, that Hon. John B. Floyd, rather than refuse him at the rate of six per week, ordered the rendezvous to be closed. Rent was paid for two buildings, after they ceased to be occupied, for nearly a year."

Where regiments are raised for a limited time and a specific purpose, as in the active prosecution of a war, it is an element of strength to have ties of civil association, provided the officers are carefully selected. But even during the Rebellion, after a few notable early exceptions, the authorities discouraged as much as the brigading together of troops from the same State, for fear of fostering local, at the expense of national, feeling. But the economy of the regular and of the volunteer service are distinct, and the latter is not now under discussion.

#### NATURE OF THE ENLISTMENT.

In consideration of the ignorance of the average recruit as to the engagement he is about to enter, and in view of the doubt as to his own character on the part of the officers, it would be to the public advantage for first enlistments in the general service, during peace, to be conditional for a limited period. (General service in this paper includes mounted service, unless the contrary is manifest, in distinction from regimental recruits and recruiting.) This innovation, because it is an innovation, will not meet with favor from many conservative minds. It offends the traditions: so did percussion caps; so did breech-loaders; so did the existing

tactics. Others will object that a man should know his own mind, and should not be permitted to temporize with, and retract from a serious pursuit once undertaken. Many early desertions occur because men *do* know their own minds and find that the engagements they have assumed are not what they expected. They are disappointed, and five years is so long a period for a young man to anticipate that many, regardless of their oath, solve the problem by desertion.

I advise first enlistments in peace to be modified substantially as follows: The preliminary or conditional enlistment to be for four months; the recruit to receive weekly pay on special rolls at the rate of three-fourths of the regular pay of a private, one-half in cash and one-half retained; his civilian clothing to be carefully stored for him; no uniform clothing to be issued in excess of his actual current needs. Should he not desire to renew the engagement, or should the Government decline to retain him, he should be discharged without travel-pay or allowances, but should receive his four months' retained half-pay. He should turn in to the Quartermaster his uniform clothing, underclothing and blanket excepted, and he should receive back his civilian's clothes. There should be no other settlement of the clothing account during this period, and no system of trader's credit. The subsistence department should be required to keep for sale to the recruit the articles now specified by law, and a few others, including wash-basins. To the recruit on arrival at depot should be sold, on credit if desired, one basin, one comb, one towel, and one piece of castile soap. If sold on credit, the government should re-imburse itself out of the payments made him in the second month. This conditional enlistment should in no respect lessen the careful physical examination now required at depot, nor in any way interfere with the government's right to discharge the recruit at any time, at its own pleasure. On the other hand should he desire to remain and the government be willing to retain him, his permanent enlistment should occur, in reckoning which the four months already served should be counted. His clothing-account should be settled at the first regular period; he should receive in cash the half-pay retained, and the difference between the regular pay and the pay already received should be placed to his credit for payment when honorably discharged. Such a system, or one on the same general plan, which would require the authority of law, would



not be complicated, notwithstanding certain clerical objections that will always be urged against departure from old methods, would not be nearly as costly to the Government as the present system of unconditional enlistment and frequent desertion, and would very largely do away with the causes of current discontent. It is probable that Congress would authorize the enlistment of a certain number of such conditional recruits in addition to the regular force, at least to test the experiment, if so advised by those in authority. While it is probably better that all men in their first enlistment should pass through the probationary period at a depot, it is quite possible to apply the same system to regimental enlistments.

This conditional enlistment should be such only as above specified; in all matters of duty and of discipline the recruit should stand on the same footing as an ordinary soldier. In war there should be no conditional enlistments.

Whatever the length of the permanent enlistment, provision should be made for a soldier to purchase his discharge at any period of it, at the option of the Government. No man should look forward to it as a right, but to any worthy man it should be conceded as a favor. The conditions upon which a discharge could be purchased are of very simple calculation, and such an opportunity for a man to relieve himself independently of political favor, often so hard to secure by the most deserving, would be another incentive to good behavior.

There is a growing feeling that the enlistment should be shortened and the interval for re-enlistment increased. Three years is barely long enough in which to make a good soldier, and the whole of it is required to form a cavalryman worthy the name. But in view of the many opportunities that occur in civil life in the course of five years for an intelligent man to improve his condition, and of the fact that first enlistments generally take place at an age when men are most hopeful and are least disposed to bind themselves, if it can be avoided, to a condition that the ordinary civilian regards as odious, I am inclined to believe a three-year first enlistment would swell the number of recruits and would improve their quality. Subsequent enlistments, when the man thoroughly understands what to expect, should be for five years, as at present, and should include all the advantages of increased pay now offered. But the period during which technical re-enlistment may occur might profitably be extended to

three months. Such delay is practically offering a moderate bounty for trained soldiers, and is an encouragement for men to return to the colors if so disposed, after a short relaxation or trial of civil life. The value to the Government of an instructed soldier over an uninstructed recruit is such that, on the lowest basis of profit and loss, it pays to bid for trained men. Besides which it would give the discharged man the feeling that the army is a home in which he would be welcome, and it would increase his attachment to it. To give a re-enlisted man a bonus of three months' pay proper would be a cheap outlay for a good purpose; and he should be distinctly promised assignment to the regiment of his choice if there are vacancies, but men should not be enlisted in the general service for special regiments.

The suggestion made in high quarters that all enlistments should be for one year, seems to me to be the practical disintegration of the army in the guise of reform. Its only possible advantage is that it will probably decrease desertion in name. He would be a very unstable and worthless man who would not endure his position, with the prospect of certain release in a few months after he had discovered his grievance. On the other hand, the enlistment and discharge of the entire military force once a year would still further burden our paper-ridden army with just five times the clerical work it now transacts on the same subject, and it would turn any particular command into a perfect kaleidoscope of material. Even a minimum company would lose, on an average, one man every ten days by expiration of service alone, and the larger companies proportionally. Many, of course, would re-enlist, but they could not be depended upon to do so in the same company nor in continuous service, and a captain would be constantly learning new characters if not actually training raw recruits. The spirit of unrest, the hope of improvement, would almost destroy the homogeneousness of a company, and it might even be that a captain would find himself obliged to cater to the whims of his men, and not to follow alone his own judgment, in order to keep his ranks filled.

But the graver evil of one-year enlistments would be to the men themselves and to the army as a whole. One of the essential qualities of a regular force is the sense of stability, of firmness, that it inspires in others, that it feels in itself. An army of one year's men would be like a gang of laborers hired for a job. They would possess nearly all the bad qualities of volun-



teers without their saving grace of fighting for principle; for volunteers are held to their work more by subjective than by objective considerations. A regiment marched into a disagreeable station or on an unpleasant duty would be practically disbanded. A company with an unpopular commander, whether deservedly so or not, would indeed be a skeleton, without vital force or muscular power. Such commands would serve as mere schools for recruits received from depot, who would not tarry beyond the year. Discipline in both its good and its bad sense would be abrogated, and neither officers nor men would know on whom they could depend. The year's enlistment, avowedly proposed as a remedy for desertion, by its stimulus to dispersion under the encouragement of law would leave the army in effect very little better off, besides immensely increasing the travel-pay and clothing-account bills.

It is perfectly conceivable that with this concession to the volatile habits of organized workers, a wave of discontent might in any one year leave the Nation practically disarmed by the operation of its own law. It would only be necessary for its trained soldiers to abstain for a very short period from enlisting, for all the substantial effects of mutiny to be attained.

#### CHARACTER OF RECRUITS AND THEIR TREATMENT ON ENLISTMENT.

In peace very few men enlist for the first time for any love for, or knowledge of, the profession of arms. The army is recruited chiefly, but not exclusively, from the ranks of unskilled labor, and the impelling motive is usually want of employment. Mechanics and clerks occasionally enlist from the same cause. A certain percentage enlist under assumed names, usually to escape moral trouble of various degrees. Some in order to avoid, as they suppose, work of any sort. A very few in the expectation of a life of adventure, and a certain small number in the hope of obtaining a commission. Not one man in a thousand, excluding those who have served in foreign armies, enlists for the first time in the United States Army with any knowledge, or true appreciation, of a military life.

In relation to foreign soldiers, who are chiefly German and British, it may be said, once for all, that the Germans usually enlist only in default of civil employment, but that they make very patient, subordinate and trustworthy men. Although occasionally

wrong-headed they never are mutinous and rarely disorderly. On the contrary an ex-British soldier, especially an Englishman, is seldom worth his rations. Generally well set up and "smart" they know their duty but they are constant grumblers, stirring up discontent; they usually are drunkards, are unaccustomed and averse to the fatigue work our service requires, and, as a rule, do not serve out their enlistments. Many are deserters before enlisting, and, after being paid a few times, desert from us. An experienced officer can usually detect at once a British soldier, and, in my opinion, every such applicant who cannot produce a good discharge should be rejected.

The War Department rules that desertion from a foreign service, even during peace, is not evidence of that bad character that should reject a recruit; but, practically speaking, such men are worthless themselves and a source of corruption to others. When, unfortunately, enlisted they should be governed with inflexible rigor; accustomed to severity, they best appreciate severe rule. There are a few honorable exceptions, increasing now that short term enlistments are more common abroad. These men with good discharges should be warned as to the different conditions of our service, and then be held strictly accountable for their conformity to the milder discipline to which they are about to bow.

But judicious management of the raw recruit is a complex problem. The alien who enlists is accustomed to authority and will accept without a murmur any treatment that is accompanied by food and clothing. The native of a higher grade, and, contrary to popular opinion, the majority of the rank and file are native born, who has by the operation of a simple formula transferred himself absolutely into the power of others, by no means promptly realizes his new condition, and when he does he is fairly stunned. To find himself, literally, with no free will as to what he shall eat, or whither he shall go, or wherewithal he shall be clothed; to be denied the privilege of response and to have unquestioned obedience exacted as to the minutest matters, involving position and gesture as well as speech, is a trial that to many men is painful to the last degree. Some men do not care, but it is those who do care that are usually the best material and for whom the road to soldiership should be most carefully graded. Generally speaking it may be said that on enlistment the recruit is perfectly willing to do all that is required of him when he can comprehend it, but the application of cast-iron rules to men of all intelligence induces much, and often unnecessary, friction.



There is reason to suppose that many general service recruits feel much aggrieved at the very outset by the compulsory sale of their civilian's clothing under circumstances that rarely allow them to realize its full value. This may be a small thing financially, but it is very important to a destitute man to get the full value of clothing that he may have bought with difficulty, and that, in view of a possible rejection at depot, becomes of much contingent interest to him. Under the system of conditional enlistments, proposed, this forced sale would be avoided.

The recruit's fare at rendezvous will compare favorably with that of an ordinary laborer, but is often such as he has neither been accustomed to nor can digest, and he suffers accordingly. To many, however, it is more ample and nutritious than they have lately had. Detention at rendezvous, varying from a few days to several weeks, is always tiresome and usually very disagreeable. Notwithstanding the extra expense of frequently transporting the soldier in charge, the prompt transfer of men to depot should be insisted upon, and they should be given the choice of retaining their civilian clothes for the journey. The essential motive for uniforming recruits immediately upon enlistment is for their easier identification,—there certainly can be no question of esprit in the awkward and bewildered men clothed with ill-fitting and unaccustomed garments. It does mark them, but not in such a way as to reflect credit on the army or to add to their own self-respect. The men who will desert by the way are rarely worth, for their own sakes, a second thought; they certainly are not worth the clothes in which they are incased. The average civilian draws no distinction between the soldier of one week's or of ten years' service: he brands them all with the same mental stamp and will best remember the most forlorn specimen. As a matter of popular education, the gross and untidy novice should be veiled as such from the public eye. Once enlisted, send the recruit immediately away to his newer field, and send him comfortably and with adequate food by the way, even should a special allowance be necessary. This is not always done, and although no material mischief is known to have followed, very great personal discomfort in cold and hunger does sometimes occur. First impressions are lasting, and the man who is neglected and ill-treated, or who may consider himself thus, however he becomes accustomed to his fate, will not regard his novitiate with satisfaction.

There is much difference of opinion as to whether recruits should be retained at depot for a moderate period or be transferred at once to regiments. In theory, if a recruit is carefully selected at enlistment, it is better that he should be sent with the least practicable delay to the special command that he must ultimately join. There by daily contact with trained men, by unconscious moulding in the routine of company life, it is held that he will more quickly acquire the knowledge and polish that make an instructed out of an uninstructed soldier. Just as a foreign language and foreign manners may be most quickly acquired by compulsory residence among foreigners in their own homes, so recruits at once introduced into the company ranks are soon assimilated beyond the notice of a casual observer. It is without question the proper way to keep up the files in war.

But during peace the various regiments are so exceedingly widespread that there are few to which it is possible to send the men as recruited; and, moreover, in practice it is found that the selection at the rendezvous is not final. About an average of two hundred men a year are discharged at depots for conditions not patent or not discovered at rendezvous. It is to the interest of both the Government and the men that the unfit should be eliminated before they are transferred further.

Men in their first enlistment are now required to remain at depot four months for instruction and observation. More than any other of the same length is this period important in the enlisted man's career, and, in the writer's opinion, it should be strictly probationary. But for that there is no present provision. The Government closes its hand with great firmness upon every man once upon its muster-roll and the able-bodied recruit has no escape except through fraud. Theoretically, men of bad character may be discharged there, but General Sherman's common decision was, "this is a case for discipline." I am confident that to permit either the man or the Government to terminate the contract, substantially as before suggested, would conduce to contentment and efficiency.

Until comparatively recently the doctrine, "anything is good enough for recruits," has prevailed in fact if not in word, and the very class most in need of them has been the most deprived of the material comforts of a soldier's life. A few years ago one of the depots was thus described: "One company room has bunks for the accommodation of 120 men, giving 190 cubic feet air space



per man [600 feet is the minimum sanitarians demand]. It now contains one hundred men who are seemingly comfortable. It is only when more than 200 men are packed into this room, as sometimes necessity demands, covering the floor like red herring in a box, that discontent becomes irrepressible and desertion results. \* \* \* When the strength of the command exceeds the capacity of the garrison it is not only that the soldier suffers discomfort on account of the crowded condition of the dormitories, but the absolutely necessary accommodations of the hospital, mess-room privies, etc., add greatly to his sufferings, morally and physically. He is required to wait patiently his turn to each and every place his poor, frail humanity drives him. It is sad to contemplate the feelings of a young raw recruit \* \* \* when he is ordered to report to the sergeant \* \* \* and is assigned to little else than standing room in a dormitory and a place in line to wait his turn for a seat in the mess-room, to a pine table, tin cup, and everlastingly boiled meat." \*

Matters are better now, but with overcrowding similar mischief is liable to follow. At another depot new comers were quartered in structures that twenty years before were temporary, with not even so much as a wash-basin furnished by the public, and where there was no provision whatever for a bath of the person. Fortunately that is improved out of existence, but there are hundreds of soldiers now in the army who know these places by their own experience, and scores of men abandoned the musket without leave because of just such trials. Worse than these, one depot has for years been a distributing reservoir of typhoid fever, spreading that disease with almost every draft, peopling its own graveyard and sending victims into others all over the West. These grosser evils are gradually disappearing but there may be further improvement.

Some conditions peculiar to the recruit require further attention. One is

#### FOOD.

The general question of subsistence is deferred to a later page. It is enough to say here that there should be a bread and meat allowance in kind, not by substitution, of a ration and a half of the present size for every recruit of less than four months' service. Should, occasionally, it not be needed it should not be drawn,

\* "Report on the Hygiene U. S. Army, 1875," p. 26.

but constant experience shows that recruits will eat about that much of these articles, day by day, if they can get them. It is a by-word that recruits are always hungry. The hunger is real and should be respected. To a certain class the diet and the cookery are too coarse, and their stomachs reject everything but the staples just named, which they crave in excess. Others find themselves stimulated by the open air life; while a third group, underfed and exposed to want, need more food to bring them up to a normal standard. Messing for recruits, and for recruits only, should be by garrison and not by company. This involves special arrangements, but it will insure economy of time, of labor, of materials, and of temper, with an increase of comfort.

#### INSTRUCTION.

At depots, recruits should be grouped into provisional companies for instruction in the school of the soldier and for general discipline. The musicians should not be carried, as at present, either on paper or in fact, with these companies; for they, too, are under instruction of their own, have their quite independent duties and should not be subject to a mixed allegiance or divided authority.

The companies can only be nominal and only exist for purposes of instruction. Their maximum should be 100 privates, while 75 would be a better limit. If larger, some men will certainly be neglected. They should be companies of instruction pure and simple, with everything subordinated to the single idea of military training. To this end the entire public attention of all above the grade of private should be given to the men, and that of the men to their personal military duties. From these duties no man should be diverted until fairly instructed, and then only for necessary and specific purposes. To aid in this, only very limited paper work, such as rosters for guard and fatigue, morning reports and the most necessary current writing, should be transacted in the company. Everything beyond that, like descriptive lists, clothing-accounts, muster-rolls and discharge papers should be relegated to a central office.

#### INSTRUCTORS.

To supply efficient and judicious instructors is a very difficult matter. Each recruit company should have for duty with it two commissioned officers, which is not now the case, and sergeants



selected with especial reference to the interest they will take in the monotonous duty of instruction. The obsolete but unrepealed order for the detail of regimental sergeants is ineffective. They were sent either because undesirable in their companies, or as a reward for faithful duty, with the expectation of relaxation. They have no relaxation and they very soon weary of the treadmill work and lose interest. The sergeants should be well-instructed, intelligent and patient men, with pride in their profession and doing their work with firmness, tact and kindness. Practically the depots depend upon their own resources for the warrant officers and these often are insufficient. Sergeants for depots should have served at least one enlistment and be discharged with an excellent character, and certain special inducements should be held out to them for the performance of duty which, while it involves no hardships in the physical sense, lacks very many of the attractions that ordinary service yields. Among these, in the opinion of an experienced and intelligent non-commissioned officer consulted by the writer, would be separate messing and a distinct club room or place of resort for non-commissioned officers. The promiscuous mingling at a trader's store in the familiarity that so soon breeds contempt, and similar association in the common mess, detract from the respect that they should receive for the sake of discipline. Such arrangements would increase their deserved personal comfort and would heighten their self-respect. I concur in these views, and would add that the First Sergeants should have the actual rank and pay of that grade, not merely, as at present, the "acting" status, and that there be one duty sergeant, warrant or lance, to every sixteen privates.

#### ARTISANS, ETC.

In all commands under the self-supporting system of the army, certain artificers and other extra and daily duty men must be employed, and they must be selected at the depots for assignment where necessary. The selection can only be made by carefully testing them, and this in turn requires overseers or foremen of the respective trades, whose stay at depot should be longer than the ordinary limit. The temptation is to put a recruit carpenter at work as a carpenter too soon, for his military advantage, and if he is a good carpenter, to excuse him from the ranks too long; to select a handy man for some special work before he is well-drilled, and to develop his specialty, be it clerical or manual, at the ex-

pense of his martial duty. Such men are always at a disadvantage. When they join their commands they are under arms only in emergencies, and thus when most is required have the least to depend on. The remedy is obvious; every officer knows what should be done with such recruits, and the caution is introduced merely because the completeness of the paper demands it. Nevertheless there is a constant temptation to sacrifice the public and common future good to some local and immediate advantage.

#### CLERICAL DUTY.

There is a point in connection with the administration of depots that does not bear distinctly upon the individual recruit, but is important enough to warrant introduction. This is the central clerical bureau—the adjutant's office in a wider sense than that of an ordinary regimental headquarters. There is an enormous amount of clerical work required at the various depots to properly account for the two thousand men who yearly drift into and out of each of them. Many of the papers are voluminous, some are peculiar, some require promptness and all accuracy. The work is tiresome, often irregular, and always requires special instruction; for much of it differs from the ordinary regimental and company records, and all of it is dissimilar to that of civil life. The recruit so employed soon tires and feels his time as a soldier is wasted, while at the same time he develops a distaste for company and fatigue duty. It would be in the interest of efficiency to allow no recruits in the central office and to have a small but effective corps of general service clerks, who would be liable to transfer to the ranks for misconduct.

#### CONTROL.

To return to the ordinary recruits: It must always be remembered that the majority of these men will do precisely as they are desired if they can understand it, but that there will always be found a proportion of the sullen and vicious, who may act as a very demoralizing ferment. It is in the development and control of the two varieties that officers display their judgment. The subject of punishment at large will be discussed under the general head of discipline. But recruits at depot must be treated with unswerving firmness, which at first should not be marred by severity; and, above all, decision and promptness are vital qualities in the infliction of any penalty. At no place is it so important to distinguish garrison from general prisoners, for nowhere is a raw boy confined, it



may be for a technical and inadvertent offense, so likely to be contaminated, if not spoiled, by some chronic deserter waiting trial, or by a vicious rough, upon whom forbearance is wasted. Depots should not become places of confinement for military prisoners from other commands, nor should their own offenders of a bad type be kept longer than necessary for trial. Recruits, like other children, must be made to understand that obedience is the first moral law in their new life ; but they should be corrected before they are chastised. Nevertheless a penalty to be recognized should follow every lapse. It need not be severe, but it should be felt.

#### AMUSEMENTS.

It is much more important to keep men contented than to punish them for offenses often bred by discontent. This is especially true at depots where, while the work is not severe, the confinement without constant occupation is very irksome, and very trying to men fresh from the freedom if not, indeed, the leisure of civil life. Good libraries do exist, but soldiers cannot be expected to be students, and their bodies, quite as much as their minds, require exercise. An amusement hall, rationally constructed and adequately equipped, should be a part of every depot, as well as of the larger and more isolated posts.

So much space has been devoted to recruits, because from them the army is made and their early impressions are apt to last the longest.

#### EQUIPMENT.

As the equipment of a soldier, will be discussed the personal arms and appliances that, in addition to his clothing and rations, are necessary for the discharge of his duties in garrison, and his complete independence and efficient service in the field. Technically, arms and accoutrements are not equipment.

#### ARMS.

The question of arms in detail scarcely comes within the scope of this essay, as I understand its conditions ; but the following general considerations may be noted : The infantry soldier should be armed with a breech-loading rifle and bayonet of the most approved pattern. What that pattern, which will change from time to time, may be, is to be determined on occasion. At present it is the Springfield rifle with triangular bayonet ; in the near future it will be a magazine rifle, at least for the steadier troops. In addition to, not in place of, the bayonet, he should carry in the field an

intrenching tool, that will serve to cut the brush as well as to turn the soil, and that will *not* fit upon his rifle. The capabilities of the bayonet as a weapon should be mastered. The field music and the non-commissioned staff should carry the intrenching tool and be adepts in its use, and the non-commissioned staff should be armed with revolvers and carry straight swords for ceremonial purposes. Swords are a useless incumbrance to musicians. There should always be spare pieces in garrison for the careful instruction in rifle practice of all men not habitually armed. When an emergency arises for their employment in battle, the weapons would soon be at hand. Cavalry should carry the sabre attached to the saddle as a rule; and wooden scabbards would obviate much of the rattle that is sometimes supposed to herald an otherwise silent march on the plains. As United States cavalry is essentially mounted infantry, short rifles should be issued, to be carried or not, according to circumstances. The carbine has neither sufficient range nor accuracy, and the infantry rifle will interfere with the close formation. But an arm somewhat longer than the carbine might be used. There should be tactical provision for carrying the rifle across the pommel when mounted, as is habitually done on the route. Slung over the neck with the muzzle in the socket involves great danger to the rider with a horse that falls, especially at speed. Some device to free the muzzle promptly would lessen that risk. As mounted troops the cavalry need the revolver, although it weakens the value of the sabre. Nevertheless they should appreciate cold steel, and to be swordsmen they must be taught its use and the weapon be worn, and not packed away in arm-chests. In practice this, like many other details of service, depends upon the company commander. There are some troops where the men are masters of the weapon, but there are more where they know nothing of its capabilities. The same is true of the infantry with the bayonet. The insufficient training of the horses is one of our great difficulties in the use of fire-arms as cavalry. Their education is receiving more attention, but as a rule the horse requires too much of the rider's care, under fire. Heavy artillery is armed as infantry; light and horse artillery to carry pistols, and the chiefs of pieces, sabres.

#### OTHER PERSONAL APPOINTMENTS.

The most difficult part of the problem of equipment is the distribution of the burdens that the individual soldier must bear. It



may be assumed at once that the modern soldier will never, and should never, carry his full dress uniform, except when clothed in it; and that when it is worn, his pack will be limited to the merest and most temporary necessities of arms and food. In changing station his full dress and extra clothing is to be transported by the quartermaster. But in campaign, under the most favorable circumstances, the soldier must carry heavy weights. In addition to undress uniform that he wears, which weighs ten pounds; his arms and accoutrements (as infantry) weigh 12 lbs. 8 ounces; fifty cartridges weigh 5 lbs. 5 ounces; the haversack, canteen, etc., empty, 4 lbs. 2 1-2 ounces; one day's water and rations, 3 1-2 lbs. So that his minimum burden as a mere belligerent, exclusive of his clothing, is 25 lbs. 8 ounces. But his clothing is dead weight, requiring the expenditure of force. He carries, therefore, 35 1-2 lbs. at the least. But in practice he must carry a blanket, 5 lbs.; extra underclothing, 4 1-2 lbs.; and is liable to require more ammunition and rations in the above proportion. He must therefore carry 35 lbs., *plus* the clothes he wears. One piece of shelter tent weighs two pounds and the blanket bag about the same. When the spare clothing and the various small items are reckoned, the soldier in the field, will be found burdened with 50 lbs., dead weight, without accounting for extra ammunition or rations. It is very easy for careless men, or inconsiderate officers, to start a column more heavily oppressed. The immemorial knapsack modern troops find insufferable. This is not from their greater debility, but probably because of the more severe exertion required of them. More attention is also paid to disabilities arising from such causes, that formerly were supposed to be spontaneous. It is insisted by military surgeons that the compression of the chest and the constriction under the arm-pits by the necessary straps, produce serious disease of the heart, the blood-vessels and the lungs, known as hypertrophy, aneurism and emphysema. "Soldier's heart" is understood to be an irritable state, growing from overwork required when the chest is unduly compressed; and men who have worn the knapsack know how the arms will tingle and will sometimes refuse their functions when the nerves and vessels in the arm-pits have been inordinately compressed. The ordnance department has attempted to remedy this by the device of a blanket bag. But the blanket bag is really the old "monkey on the back," and is the footman's form of the knight's "black care." To discuss the different forms of apparatus would leave space for nothing else.

The essentials are minimum chest pressure and freedom of motion. Left to himself the soldier discards the knapsack and wraps his shelter tent and blanket in a long roll with the necessary clothing inside. This is slung from the shoulder diagonally across the chest, and the ends are tied together. It can readily be thrown off or shifted, and although not comfortable is not oppressive, as is the backward strain of a heavy burden laced by leather straps across the breast.

Dr. W. T. Parker, who has seen some service with troops, has recently published a suggestion that improves upon this custom. He would use a long and light waterproof case, divided transversely into three compartments, to contain clothing and small articles. Roll and fasten it longitudinally and sling it as above. It affords a reasonably dry and compact receptacle when in camp or bivouac, independently of the blanket itself, and has all the advantages of the blanket roll. Probably something of this sort, in connection with the constant tendency to mobilize infantry more and more, will be the practical outcome of these efforts at personal transportation. It is impossible to make beasts of burden from light infantry and have either corps efficient.\* Belonging to this subject is the question of supplying infantry with reserve ammunition, that is increasingly needed in these breech-loading days. Men should not habitually carry more than 50 rounds of metallic cartridges, and yet raw troops, especially, will soon consume that quantity. Instead of overburdening the men, pack animals, or high wheeled carts with the weight hung low, should be attached to each command and be loaded with convenient packages of reserve ammunition. These should be in charge of trained soldiers, not hired teamsters, and the vehicles and packages should be so constructed as to be easily taken by hand as near as necessary to the line of battle. Anciently, the small-arm ammunition was carried by the light artillery. Since the batteries have become divorced from the infantry, the ordnance department has not,

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\* NOTE.—From the importance of the subject, and with the consent of the Publication Committee, I wish to say here that I now believe that the equipment invented by Col. H. C. Merriam, 7th Infantry, practically solves the question of transportation of personal weights. Rations, underclothing, extra ammunition and blanket can be conveniently carried with one piece of equipage, with no constriction of the chest and with no pressure against the arms. The weight is borne upon the hips, with some assistance from the collar bones, and there is practically no pressure against the back and absolutely none upon the chest.

I made no reference to this pack in the essay because I had had no opportunity to examine the apparatus. Since that was written I have carefully studied this arrangement and believe it due to the soldier of the future to express this opinion in this place.

A. A. W.



as it might have done, entered actively the zone of fire—at least with this object in view.

#### CLOTHING.

It is unnecessary to explain why soldiers should be uniformly clad. All military men concede that it is desirable and that the uniform should be tasteful and distinctive in appearance. It is worth while, however, to say that regimental facings, which occasionally are suggested in the interest of regimental feeling, are objectionable in that under almost any of the conditions of our domestic service, to say nothing of war, the supply of special uniforms would be costly and irregular. The present condition of military clothing is not satisfactory. The primary object of all clothing is the comfort of the wearer and the increase of his physical efficiency. Incidentally it becomes an agent of beauty, but there are many perversions of these principles and conspicuously so in military bodies.

*Coat.*—Without tracing out how it came about, we find to-day the typical military coat to be closely cut and tightly fastened, as though to hold the soldier in shape. Indeed until comparatively lately soldiers were incapable of severe and continuous labor while officially clothed, except at a ruinous expenditure of energy and of health. But soldiers are trained for war, and nothing should interfere with their warlike efficiency. Least of all should they be crippled in the house of their friends. The conventional soldier of the parade is stiff, like one in buckram or the mailed knight, his prototype. The soldier in battle should be exempt from all trammels. When Shaw, the famous guardsman, was asked by a committee on British uniform in what dress he would prefer to fight, had he his Waterloo experience to repeat, he promptly replied, "in my shirt sleeves." It is only prejudice, but prejudice of the most persistent type, that insists upon clothing soldiers in the inherited style; and this, notwithstanding conspicuous exceptions and examples of a better way. Garibaldi's red-shirts freed Italy; the French zouaves have immortalized the Arab, not the Gallic, dress; under our own eyes the loose-jacketed Fifth New York took equal rank with the best of the Army of the Potomac; history has nothing but fame for Morgan's riflemen in hunting shirts; sailors, whether at sea or on land, are as free as the wind and as dashing. There is no military necessity for tight coats--there are

many reasons to oppose them. The modified hunting-shirt is the natural garment of every man a-field, and the soldier in campaign is the typical hunter. The true military coat, whether afoot or in the saddle, is the Norfolk jacket. As the Burnside blouse, every man, who dared, wore one in the Rebellion. It should be made to fit—not like a meal sack—and it may be trimmed to the taste of the military tailors. But “to fit” does not mean to be tight. It should be loose; first for comfort, admitting free muscular play, and secondly to allow additional undershirts when required. The latest issue of blue flannel shirts is a long step in the right direction. These now may be worn on fatigue without blouses; they should be arranged to be worn on all duty, not merely a form of display. Moderately increase the fulness; insert a belt with two sets of fastenings; let the skirts come outside the trousers, and the transformation is complete. But the martinets, the gentlemen who sit in judgment with eye-glasses and to whom is not the toil and labor of the road, will cry out that the Service is ruined.

Reduced to its final principle, the objection to a loose uniform is the fear that the soldier will become slouchy. No one likes a smart, square-shouldered soldier better than the writer; but whatever corsets may do for the weaker vessels, no man is to be held in shape by his clothes. Slouchiness is destroyed by drill and by instruction—not by the tailor. Possibly a growing youth whose mind and body are constantly taxed, as the cadet, may be the better for an occasional reminder across the shoulders; but the teachers of intelligent gymnastics know that it is the absence, not the presence, of clothing that straightens and strengthens the lad. The material should be woolen. The closer its texture the less dust will it entangle. In color, for sentimental reasons, blue should be retained; practically, gray is cooler in the sun without wasting the heat of the body, and it is neutral and inconspicuous under fire.

*Shirts.*—Should be of several thicknesses for varying climates and each man should draw them in different sizes to be worn, if necessary, one over the other. The contained air makes two shirts warmer than a single one twice as thick as either. Military shirts should be two parts woolen, and one cotton to avoid shrinkage and stiffening in washing.

*Hat or Cap.*—The same general argument applies to the hat as to the coat. The hunter's canvas hat, with a peak in front and rear, is the outcome of the sportsman's needs. On that general



model can be constructed a military hat better adapted to a soldier's needs than any yet issued, and it can be made to represent the Service. The permission, tacit or avowed, by which a column on the plains wears head-gear of every description but the regulation, is authority that the official issue is not satisfactory. There is no good reason why a soldier should not always be ready for soldier's work. It requires some moral courage to equip a regiment with sportsmen's hats, but not more than to carry trowel bayonets. The hats are a daily, the trowels an occasional, protection.

*Shoes and Boots.*—The latest issues of shoes will be very good when the material and workmanship are equal to the standard. The Quartermaster General is in error in supposing only the latter has been at fault. Soldiers should be confined to the regulation issue. Feet are too important to be trifled with by men who walk, notwithstanding General Sherman's permission for them to wear what they choose. Cavalry should carry a spare pair of shoes, not boots, to wear when dismounted. Twenty per cent of a cavalry command is sometimes on foot, and men cannot march in boots without crippling their ankles by chafes. This is important. Practical defects in shoes that have been issued are excess of leather in the uppers, leading to wrinkles and consequently to chafing; insufficient height in the instep, requiring many shoes to be cut at the tongue for wearing in comfort; and frequently roughness in the side seams, causing sore ankles. The same is true of boots. Foot gear is so important for the efficiency of troops, that company and other officers can scarcely pay too much attention to it.

*Stockings.*—As a rule cotton stockings are better than woolen, all the year round.

*Drawers.*—Should always be of at least two grades, and for the cavalry should be reinforced in the seat.

The other articles of clothing as now issued are excellent and appropriate, but they should be in more distinct grades as to thickness. It is just as possible to clothe soldiers as civilians in accordance with the season. The bottoms of trousers for plains' use should be faced with light leather or, better with canvas, before issue to protect against being cut out by the grass. A certain proportion of cavalry trousers should be reinforced in buckskin or canvas. It is a question whether light leather—buckskin—overalls might not be issued as company property to the

cavalry in certain localities, and the canvas overalls be exceptionally allowed the infantry in rough marching. The clothing allowance is adequate. A more positive control should be exercised by commanding officers over the charges of company tailors, which frequently are exorbitant.

#### QUARTERS, ETC.

In theory soldiers are fairly quartered. Practically they are much better off than, less than twenty years ago, when three-tiered bunks, holding six men, crowded some dormitories. A competent discussion of quarters would, by itself, overrun the limits of this essay, and it must suffice to say little more than that each man should have his separate bed; that each bed should have at least 80 square, and 450 cubic, feet of space (the inevitable absences will carry up the allowance); that light should be abundant, warmth sufficient, and ventilation ample. But to carry out these almost self-evident propositions is not always easy. To quarter seventy men in barracks intended for fifty is a serious temptation, often yielded to when it seems necessary to house such excess. The bad effects of this course do not show themselves the first day nor the first week, and the evil is so insidious that it is not distinctly recognized. Writers on hygiene insist that the emanations from the skin and lungs of men in health, to say nothing of those diseased, are poisonous to others, and that these animal miasmata must be diluted by abundant fresh air. This dilution implies frequent renewal. It is not sufficient to shut men up, as I have seen within the past three years, in long air-tight boxes of rooms, even though the air space be sufficient for the first half-hour, with windows and doors the sole openings. Means for the renewal, the diffusion and the escape of air must be arranged beyond the control of the inmates. And pains must be taken to completely carry off the products of combustion. In default of all this, colds, sore throats, languor, the lighter fevers, pneumonias, consumptions will be bred, but so gradually as to excite small suspicion of the real cause. In addition to special arrangements for ventilation, it is particularly necessary that the windows should be raised and kept open for a considerable period each day, on both sides of the room in fair weather and on one side regardless of storms, and this irrespective of temperature. The whole barrack must have a daily air-bath; blankets and mattresses a daily sun-bath also, and dust and debris be carefully removed. The

importance of these injunctions will be clearly illustrated by comparing the sick reports at the end of a month from two barracks, side by side, where one has been kept closed, as careless officers sometimes allow, and the other has been systematically opened. As every one knows, soldiers have a superstition that to flood a barrack floor with bucketsful of water and to splash this about with brooms is washing, and that this traditional method meets all the requirements. This abuse should be stopped. The rooms are made damp, the wood absorbs the moisture, and the filth and refuse that should be removed entirely is generally only changed in place. Dry scrubbing, holy-stoning when necessary, and the careful scrubbing, with small quantities of lye or sand and water, of spots that are particularly foul are sufficient. The walls should be frequently lime-washed or, if painted, be well washed down with dampened cloths or sponged off. Vermin should be sedulously exterminated. There is no reason why the distressing and disgusting plague of bugs should infest men's barracks more than private houses; but eternal vigilance is the price of immunity in most regions. In this connection it may be insisted, that the weekly inspection should embrace not merely the packing of the kits and an external view of the uniform, but a careful investigation of the underclothing as worn and of the persons of the men. After the inspection of arms and barracks, while the men yet stand at their beds, the command, "Remove both shoes and one stocking: open coats and shirts!" would give the inspector an opportunity, that now is rarely sought, to discover the actual condition of the men under the artificial superficies, and to follow up any particular case. To resume the subject of barracks: No building should be erected, no permanent camp be pitched, until the ground is thoroughly drained, and, if necessary, prepared as laid down in the special treatises. Cisterns should always be prepared to receive the roof-water, partly to preserve it and partly to lessen soil-dampness. Cellars in cold and piers in warm climates should be put under barracks. Casemates should be condemned as permanent quarters, but casemates with artificial heat and sufficient air-space are preferable to overcrowded dormitories, be they never so attractive in appearance. All new barracks should be built far in excess of the needs of the present skeleton companies, which if raised to a proper size would otherwise overcrowd them. Corporals should sleep with the squads: sergeants should have separate rooms but within easy communication of the men; first



sergeants (always single) should live in the building; higher non-commissioned officers should have detached cottages, or comfortable suites. Each man should have a locker—shelved, with front doors (glazed if possible)—fixed above his bed, with gun-rack at the side. The present boxes which are regarded as furniture, might be used to transport individual property in changing permanent stations. But men should always be warned against too great accumulation of unnecessary articles that would be sacrificed on a march.

Were it not sometimes omitted, it would seem superfluous to insist that an adequate company wash-room independently of a bath-room, be provided within the barracks. A post bath-house should always be provided, and the men be compelled to bathe with fixed regularity, while having unlimited privilege besides.

The character and the care of sinks measure the civilization of a population. These should be ample and comfortable, but soil contamination must be guarded against. Soldiers cannot be trusted with the manipulation of water-closets; and direct water carriage, when possible, is the best, but this can only occur by a great lake or sea. Where there is a fair water supply, the next best thing is a cemented pit washed out daily by a fire-engine or other vigorous means. Then come a succession of cemented pits with soil as a disinfectant. The contents to be removed at a stated interval and used as a fertilizer.

In connection with quarters special pains should be taken for the grading and keeping dry of company streets, so that men compelled to fall in for frequent roll-calls should not, as now often happens, leave the ground with wet feet. It is proper to add that the very latest barracks, notably those for light batteries in Eastern stations, seem to leave very little to be desired in the way of comfortable and attractive dwellings.

#### FOOD, ETC.

The ration is a uniform allowance of food established for the use of the army regardless of duty or locality. By a system of exchange and the commutation into money of special parts not consumed, it is increased in variety and in amount in certain ways and a company fund for the comfort of the men is established. Unlike most other services, the American supplies its soldier, in theory, with all his necessary food. The allowance is liberal but not altogether judicious. The salt meat is in excess; the fresh

meat as issued (dry and tough) is often inadequate, and the starchy food (bread and potatoes) is not, generally speaking, sufficient. In practice these (the starches) are procured by the sale of the surplus salt meat. For recruits, or for companies receiving many recruits, the bread ration (18 ounces) is not enough. It would be in the interest of efficiency that the standard be 20 ounces with the power of increase to 22 or 24 ounces at the discretion of the department commander. Insufficient food is sometimes alleged as a cause for desertion. It is probable that bad cookery causes more dissatisfaction than want of food, and that neither is a pressing evil. The detention of companies for very long periods, where company gardens cannot be cultivated, may occasionally exert such influence. With an increase of the bread ration as indicated and an increase of the fresh meat where it is cut from frozen carcasses as at the end of a Dakota winter, or from Texas steers on the more arid plains, the ration itself with its permutations and possibilities is sufficient. But more care should be observed in the preparation of the food. There are few things more distasteful to an officer than the supervision of the cook house, and yet few are more important, looking to the well-being of the company. One of the most important differences between the regular and volunteer troops is the individual independence of the former in the field, in which his ability to do his own cooking is an important factor. To make that more complete, and at the same time to improve the cooking in garrison, I would place the cook's detail on an extra duty status and would continue it during good behavior. Every private without exception should take his regular tour, first as kitchen police for ten days at a time and afterward as assistant cook for fifteen days, ordinarily relieving both from duty under arms when so engaged. When a man has demonstrated his ability to cook the ration well, he should be put on a separate roster, for kitchen detail only in emergency. Such particulars can easily be arranged. Soldiers should be made to understand that cooking is a part of their education and that they will be given credit for it in the estimate of efficiency. The proposition that just now is attracting much attention, looking to the establishment of garrison messes, does not seem to be in the ultimate public interest. Wholesome food, well cooked, with sufficient variety to be attractive is all that is necessary. We do not want an army of epicures any more than an army of scholars. A serious consequence of its adoption would be the severance of the com-

pany officers from the care of their men as to their food, and a gradual loss of their sense of responsibility in this important particular. Powerless to correct errors, to make improvements, even to inspect the tables except in the most indirect and occasional manner, either the captain would wash his hands of the whole business or there would be a constant friction from his effort to interfere. The company fund would be made, and in great part expended, by another, and whether well or ill-fed in garrison his men would go into the field blind led by the blind, the hungry fed by the ignorant. Nothing so quickly cripples a faculty as disuse. Responsibility is lost by want of exercise. The exception to this ruling is in the recruiting depots where the men are completely taken up with the school of the soldier and should not be burdened by other work. There is a very good reason why a common mess should be established there, for the cookery at the depots is merely to feed the men, not to teach them. How far this may apply to the schools of application, I am not prepared to say. But if the companies there are frequently changed, if they are not permanent collections of dummies, standing platoons of lay figures for manipulation by the officers in the kindergartens and the high schools, it would seem a waste of good material for them to keep up the rehearsal or the attempts to learn what properly belongs to ordinary garrison duty. But whatever may be done in the exceptional stations, all the real soldiers cannot be too scrupulously protected from reliance upon a system that must break down under the touch of war.

#### FUNDS.

The company fund represents the money value of the ration not consumed, added to by the sale of vegetables from its garden, should the company fortunately have such. The post fund is the savings of the post bakery with the addition of a monthly tax on the trader of a few cents for each member of the garrison. In both cases the fund is practically made off the men's stomachs—the organ least adapted to practice economy upon. Half of the net post fund goes to make up the regimental fund, and can be expended only for use of the band. The other funds are expended in various directions for the comfort of the men, the improvement of their diet being the first consideration. Inasmuch as in one shape or another nearly all of this money comes originally from appropriations by the Government for the diet of the men, it is a



question whether all expenditures by it should not be confined to that end. From every theoretical point at least, bands, attractive and useful as they are, should not be kept up by stinting the table. It would be much more equitable to make a small deduction from the pay of officers and men for such support than to divert food-money for this purpose. There is a temptation to positive abuse by such diversion, as, for example, on one occasion, when a regimental band needed instruments, the bread ration at the post where the regiment was stationed was cut down to 14 ounces in order, by the increased sales at the bakery, to raise the necessary funds. Unless very carefully regulated for the direct general benefit of the rank and file in subsistence, the whole profits of the bakery, under the present system, might better be divided among the companies than be expended for food by indirection. It is not that the expenditures are injudicious, but that the devious route is exceptionable. Attention is invited to the creation of a fund from forfeitures by courts-martial under the title "Punishments."

#### TREATMENT OF THE SOLDIER.

The recruiting, clothing, feeding and sheltering of men, however important, are not, after all, what make soldiers. Soldiers are made by treatment, and under that term the writer groups all that pertains to enlisted men in addition to the foregoing. The ideal army is one physically perfect, intelligent, absolutely and unflinchingly obedient, filled with fortitude, with courage and with soldierly pride. The ideal soldier is a unit having the same characteristics. The cynic may smile at the impossible picture, but he is a poor soldier who is not an optimist, and the optimist is always faithful, always hopeful. It is, then, the province of the officer to impart such qualities as can be engrafted and to cultivate all to the utmost. But at all times, between the officer and the enlisted man, there is a gulf that can never be crossed without peril to one or the other. The cultivation of constant and instant obedience and respect toward officers, in the minutest particulars as well as in the gravest matters, is a cardinal point to be pressed, without unnecessary harshness, from the very first. It is a hard lesson to learn, but it is essential, and the officer is unkind who fails, unremittingly, to enforce it. From the beginning the soldier must extend all the outward signs of respect, and reason, as well as experience, approves of it. Silence, the uncovered head or the

salute, the position of attention, are merely means to an end, as the wise soldier soon learns. By the cultivation of the subordinate frame of mind the habit of obedience is the sooner learned, and obedience is the keystone binding the whole military arch. The respectful mental attitude is not servility, it is deference. The ceaseless drill of the body is another agent toward the same end. The trained soldier performs his evolutions automatically and he obeys an officer in like manner. Speculative philosophers will deplore such surrender of the will; but no speculative philosopher can save a nation in physical peril without such a machine. Speaking generally, the rank and file are not sufficiently cultivated to understand the motive; but officers understand it, and he is a very weak officer who fails for a moment to comprehend that the respect is paid to the office not to the man; to the rank, not to the individual. So as a matter of duty, not of pride, every punctilio should be exacted and should be received not with arrogance but with simplicity. Well-meaning officers occasionally seek to unbend from the formality of position, and weak ones sometimes insist upon excessive and ridiculous display. Both are in error. The medium line of careful observance of set forms is the only safe one. But such duties are reciprocal. Courtesy must be shown by the officer and the official politeness of the soldier be properly acknowledged. Without being infirm the officer should be considerate, the more as the soldier may be humiliated by accident but without redress. In many ways the men stand in the position of children to be carefully provided for and to whom examples must be set. And like children they are quick to learn from example. A polite captain will have a polite company; a rough captain will have a coarse and disobliging company, of which, were it expedient, examples might be cited. But after all it is less the cultivation of politeness than the subjection of the whole to the will of one that is to be sought. The essential difference between the trained and the untrained soldier under fire and equally brave is, that the one steadily obeys orders, never questioning that his comrades are doing as they are told, and that a superior intelligence is in charge. The other, thinking of his neighbors, as the fire increases doubts whether they may not manœuvre independently, and is quite apt himself to look out for his flank as well as to exercise his private judgment in other ways.

Obedience must be encouraged, then, first by intelligent instruction; then by insistence upon it in every particular; by care-

ful explanation when the lapse seems from ignorance; and by graded punishment when the culprit knows better. Our soldiers require not only the moral training of effective discipline, but the physical culture of careful and constant drill. Setting up is too often neglected and the recruit lounges his way half through his first enlistment before acquiring a proper bearing. Primarily this is an exercise, but presently it becomes an honorable distinction; for military carriage should always be valued and is at no time and under no conditions to be disregarded. Company drill should be unremitting until the companies *are* drilled, and then should be continued to hold what has been learned. The companies, often skeleton at best and further reduced by details, are frequently so small that officers lose heart and to the men the movements, which amount to little more than facings, become ridiculous. But there are few posts where, by consolidation, at least one respectable company for drill may not be formed, which the officers may take out in rotation. A company of sixty men for drill purposes is much more valuable than five of a dozen each. To accustom men to strange comrades, to different tones of command, to even the different temperament of captains is instructive. For battalion drill small companies are better than none, and five of ten files are better for practice than two of twenty-five. Battalion drill is for officers; company drill is especially for the men.

A very serious evil, growing into a pernicious custom, is the habitual absence of the daily and extra-duty men from the drills, until on the arrival of an inspector they are made up into unusual fours and spoil the ranks, or under the pressure of marching orders they fall in with their rifles, and fall out by the way. Officers and men forget what extra-duty pay is given for. It is not a money commutation in lieu of guard duty, nor a premium paid to give a man every night in bed. Extra-duty pay is for the performance of extra duty, and extra duty means duty in addition to, or beyond, the ordinary military requirements. Now there is rarely any reason why the clerks, the gardeners and the nurses, the assistant cooks, the teamsters and the artificers may not attend stated drills. Not every day perhaps, but once a week, or twice a week, all the men should be in the ranks, partly for their own sakes and partly to make up the command. These extra and daily duty men should form no aristocracy of wealth and leisure to stand at one side and see the soldiers "soldier." Such recurrence to older ways will excite great opposition; short-sighted staff



officers will protest that they are crippled; school-teachers and clerks will shrink from hardening their hands; the cooks may even go so far as to spoil one or two dinners. But it is all possible. Occasionally, but rarely, it may be to the temporary injury of the Service to withdraw special men from special duty, and serious representations to that effect should be respected. But a post commander with any title to a soldier's name should infuse enough enthusiasm into all his subordinates to awaken, even in a quartermaster, the feeling that the combatant efficiency of the command has the first claim upon every one. As matters now go on, in many posts there are long lists of men permanently excused from even the formality of Sunday inspection. Garrison life should be the serious, constant and relentless pursuit of military affairs, of preparation for the field. In this connection must be asserted the impropriety of separating mounted troops from their horses more than can be avoided, and the roster should be so arranged that the dismounted troopers should not be detailed longer than fresh mounts can be had. And when all are mounted, the best not the worst men should be taken, and then for limited periods. For horsemanship under arms requires constant practice to preserve its skill.

The military exercises should not be confined to the parade ground. Its capabilities are limited, but war is limitless. Every command should have marching drills in campaign order; should go into camps of a few days or longer; should bivouac; should carefully study the theory and practice of pitching tents, wall and shelter; of picket duty; of reconnoitring and bringing back reports; if near them, of passing streams; all these, as well as of musketry, now so carefully taught. And of the arms other than infantry, analogous exercises suited to them. Climate, domestic duties, the want of a *vis a tergo*, are all deterring influences. But in the hottest and in the coldest places there are some reasonable, not to say seasonable, periods; hay-making and road-building are not ever-present evils; and although the next higher commander may not supply the motive, it is very certain that judicious zeal will reap its proper reward. There are very many practical difficulties in the way of a theoretical ideal. But the ideal should be kept in view, regardless of discouragements. For both officers and men, employment is the destroyer of *ennui*, and *ennui* is the bane of military life. Busy men have no time to quarrel, to grumble or for scandal, and busy men are sober men. Soldiers

rarely complain of too much military duty—nights on guard excepted. A marching column is healthy and contented, and so is one taken up with the mental and physical professional exercises. It is the fatigue work that is distasteful. For much of this there is no help within the army. It is imposed by insufficient appropriations, if not by direct enactment, and often is one of the conditions of existence. But this, necessity as it is, is frequently exaggerated by the dilatory way in which it is done. If done with a snap and force, if done in the style that the same men would do it in civil life, it would be accomplished in half the time. Soldiers dawdle and shirk; they don't like the work and they pass it along to the next detail. If it is legitimate work, it should be done with becoming vigor and be put out of the way. This is a proper field for discipline to assert itself. Labor by post prisoners is rarely worth the name, and sentries should be held responsible for the work done as well as for their safe-keeping. An officer of experience has suggested, as at least a partial solution of the vexatious military labor problem, that at each post there should be allowed a permanent party in proportion to its size who should be enlisted for labor under the quartermaster. These should be selected, with rare exceptions, from men who have served at least one enlistment and have been discharged with excellent characters. They should not be armed nor expected to do military duty except under great emergencies, but should be subject to ordinary discipline and be liable to transfer to the line by a court-martial for misconduct in their department. Being free from the petty annoyances of the care of accoutrements and of inspections they could be wholly occupied in labor which they would do the better. While their previously acquired habits of discipline, the assurance of constant employment and prompt pay, and the comfort of a fixed home that, they would acquire, would render them a conservative and valuable body of uniform laborers. He would accord to them the privilege of marriage. This officer's suggestion is based upon the operation of the so-called artillery detachment at West Point, which is practically a colony of married military workers. A plan that is successful there might not work well elsewhere. The legalized establishment of families in connection with ordinary posts threatens trouble and expense in almost every form, and yet it is doubtful whether a celibate colony of day laborers can be maintained. But the experiment in the latter form is worth trying, if demagogic hatred of soldiers does not include those without arms.

## GUARD.

To recur to guard duty, touched upon a few paragraphs earlier. It should always be regarded, as it is, the most important routine work, to be carried out with fastidious attention to detail. But men should have four nights in bed—at the worst, at least three. There are commanding officers who arrange posts so that barely two is the rule, and sometimes only one. It is guard duty, especially night guard, that gives an old soldier his peculiar physiognomy; and it is the factor most persistently concerned in ageing men. Reliefs as they go on post at night should be supplied with a draught of warm coffee, and at midnight a few mouthful of crackers and cheese with warm coffee should be served to the whole guard.

## AMUSEMENTS.

Relaxation is as necessary as tension, especially with men whose internal resources are limited and who have not the opportunity of relief by the change of work. The Government places its troops in specified stations; it prescribes their duties, often insufficient to employ them; it expects them to be always efficient, but it rarely arranges for their pleasure. Vigorous men must be occupied, and if pleasantly there will be contentment. Where practicable swimming, and everywhere, formal gymnastics should be carefully taught. This as a matter of duty, but it can be arranged as a pleasant duty. Athletic exercises, hunting and fishing where there is game, reading rooms and libraries, glee clubs, amateur theatricals of their own, and lectures and readings to them by the officers should be encouraged and provided for the men. Whatever is not subversive of discipline should be welcomed as a relief. For our troops, unlike those of foreign armies, do not lie in garrisoned towns or on the outskirts of large cities; they are in remote and often uncongenial places, wholly dependent upon themselves. The Government seems to consider its whole duty done without having provided for manly development outside of a very narrow technical limit. There are few conditions more forlorn than that of a large body of uncultivated men tied down, night after night, to barren dormitories imperfectly lighted, and with no relief but at the trader's. For with curious inconsistency the War Department, charged by law with keeping for sale to the men a long list of articles, necessary and otherwise, licenses a civilian to sell similar sundries to give color to his presence, and also authorizes



him to vend alcoholic beverages. These beverages now are beer and light wine. Their use in excess intoxicates. Where is the line beyond which is excess, each man must find experimentally. From the dreary barracks, reeking with fogs by the sea, or filled with alkali dust on the plains, generally lacking in comfort, and often positive with discomfort, the grade to the lighted bar room is easy. It is fair, however, to repeat what has already been said, that the later barracks are comfortable, ventilated, warm, well-lighted houses with what may be called company parlors. But the most of the army has not such comforts. At all large posts, certainly on the frontier, there should be a special amusement hall for the men, to be cared for by the quartermaster as are other public buildings. At the smaller posts there should be some central common liberty-room. In permanent camps especial pains to organize amusements is necessary; and everywhere the canteen system, managed distinctly in the interest of the men, should be fostered.

#### VICES.

*Theft.*—Is distinctively not a military vice. But when, as sometimes happens, a thief is enlisted, no pains should be spared to ferret him out and relentlessly dismiss him on conviction. This is necessary for the protection of the men, for in no other civilized community must every man leave his personal effects so completely at the mercy of his associates; and haply, also, in no other community is absolute honesty so common.

*Gambling.*—Gaming is a widespread evil that should always be discouraged, and when practised by non-commissioned officers be severely punished. It awakens avarice and envy and is almost certain to beget lying, fraud and violence. Non-commissioned officers lose their authority, especially over those with whom they play, and to all concerned it is essentially subversive of discipline.

*Drinking.*—Intoxication in the army is far less common than is popularly supposed, but drinking there, as in civil life, is the fruitful mother of many woes and is the admitted source of nearly every serious infraction of discipline. There is an honest difference of opinion whether the prohibition of the sale of alcohol in every form on a military post is either practicable or judicious. I believe it is practicable and would be beneficial, and that, in the long run, the Service would be improved by the elimination of those men who will get liquor at any price. Whatever their grade,

men who drink are apt to fail on account of drink at the critical moment. But if it is tolerated, it should be discouraged and care be taken that the spirit, as well as the letter, of the orders regulating it, be not evaded. It is hardly necessary to waste words in exposing the exploded theory that alcohol adds to either the moral or the physical efficiency of any man. There can be no doubt but that at a recruiting depot, where military habits are to be formed, its conspicuous sale and constructive encouragement is pernicious.

#### DISCIPLINE.

Discipline, literally teaching, in its better sense is the atmosphere pervading military places; and although sometimes misconstrued as a synonym of punishment, it should really concern itself equally with reward. Soldiers, like other men, are more readily led than driven, and after they clearly appreciate the distinctions of rank are keenly alive to official praise. This is as true of commissioned, as of enlisted, soldiers. Punishment, as such, will be discussed later.

Prompt obedience and fidelity to duty independently of eye-service are the essentials; zeal and pride should be the characteristic incidentals of military life. To develop these are very high functions of officers, whose obligations in such respects increase with their rank. It is a cardinal point that an order that cannot be enforced should never be issued; but an order once issued must be carried out. Laxity and capriciousness in command are equal evils to those under authority. Men never respect "easy" officers, who usually seem to them inspired by fear or by indolence. Caprice is still more dreaded. Within the limits of the regulations, strictness is rarely complained of, if it is uniform. Even distinct severity, if it is consistent toward all grades, and is accompanied by positive martial qualities, is no bar to respect and regard. Rudeness toward men is never required, but their reprimands must be made with force and directness and not euphemistically. With decent men approbation and reward are always more potent than blame and chastisement. It is not in condoning faults, it is in commending performance that officers encourage their men. A good soldier needs no unauthorized favor, but legitimate indulgences make good soldiers better. Indiscriminate praise is worthless; judicious praise is grateful. There should, however, be a graded system of official rewards for military con-

duct as well as of penalties for misbehavior. These should generally take the form of exemption from certain unpleasant duties, such as kitchen police, general fatigue, target practice after a certain proficiency has been attained, but not from duties of dignity, as guard, nor from occasions of ceremony; in the granting of hunting or similar passes; and in marking by badges and by mention in orders of the winners in official competitions. Really distinguished service in the field should be specifically rewarded within the ranks. A certain class of good-conduct men should receive a pecuniary bonus as well as a certificate on discharge, which should be commemorated by a special chevron on re-enlistment. Reproof should be equally marked. But to insure any further attention than force compels, the disciplinarian must be without blemish in the same respect. His tongue is tied, but the soldier cannot respect the unkempt, unshaven officer who reproves the man's untidiness. An arrogant officer may storm at a defenseless man whose cap is awry or his kit not packed by a peculiar system, while in his own person he may exhibit grotesque and offensive errors of equipment. The soldier falling under the displeasure of an officer who is not a consistent example, absolves himself in his own mind and often curses him in his heart. The personal bearing of officers does much to make or mar the finer points of the higher discipline. Under the wear and tear of petty annoyances both men and officers are apt to overlook and lose many of what may be called the sentimental features of the Service; but *noblesse oblige* expresses the essence of the military spirit, and should be a living principle. I have seen a faltering regiment in battle at once borne forward into a successful charge by the colors being carried to the front, from the wavering and halted line, so that the command must join them or lose them. It was an appeal to sentiment, and such sentiment is worth cultivation.

It is said (perhaps apocryphally, I do not know), that the sailor salutes the quarter-deck as the seat of authority. Why should not the soldier salute the colors as the emblem of the national authority that he is supporting, not merely when under arms, but always when passing them displayed? To take the question of the flag alone. How often is it raised day by day, rent and defaced for want of decent repair, and at night tossed in a careless heap in the guard-room, to serve perhaps as a pillow for some drowsy soldier. Will a man respect bunting like that,



or grow to venerate the authority of which it is the symbol? A kindred theme is the music that too frequently masquerades as military. "Sweet and Low," "The Lost Chord," "Embarrassment," are very beautiful for an orchestra, but they are not fit for the parade. No soldier can wish to meet his colors to "Pop goes the Weasel," nor to accept as a martial march the strains of comic operas. Still it is custom. I am no advocate for the mint, anise and cummin of martinetism, but I do believe in the lively exercise of the emotional faculties as military agents.

An army, however, cannot be held together by appeals to the higher feelings and moral suasion alone. Military pride should be cultivated, but the power and the disposition to enforce complete and prompt obedience should always be recognized as at hand. Much of the special machinery to this end is in the hands of the non-commissioned officers. That "the captain and the first-sergeant make the company" is a true proverb. All non-commissioned officers should be sober, vigorous and zealous; not perpetually nagging, but untiring and impartial. A sergeant often proves his excellence by what he does not do as well as by what he does do. Sergeants and corporals should have their own messes; should have a garrison club-room for themselves; should be given certain privileges as to lights and hours, and should be held to a rigorous compliance with the spirit as well as the letter of the regulations. First-sergeants and all enlisted men of higher rank should have at least fifty per cent. greater pay than is now allowed, in view of their responsibilities and of the character they should possess.

#### PUNISHMENTS.

A military offence may be technical or moral, or both, and the essence of military punishments is certainty and promptness. Every violation, regardless of the grade of offence, must be atoned at once, and the soldier feel that nothing is left to chance or favor. In view of the cumbrous machinery now in vogue for the determination of minor offences, it is greatly to be hoped that authority for a Summary Court in peace (like the Field Officer's Court) will soon be legal. But the soldier should have the right of appeal from it to a Garrison Court; and, further, every appropriate offence not so tried within 48 hours of confinement, serious exigencies of the Service alone delaying, should be condoned. Still further, graded punishments to be reported in writing to the

commanding officer, and noted in the company records, should be within the power of the men's immediate commander. A man standing on a barrel, or carrying a log, or undergoing in public any of the common domestic methods formerly in vogue has a very stimulating effect upon those who wish to be good but who are apt to be backsliders. A sober man should be allowed appeal to the Summary Court. Incarceration in the guard-house before sentence is often very corrupting, and should be limited to the briefest period. Garrison and general prisoners, whether tried or not, should never be associated.

The constant trend of the Judge Advocate's Department seems to be in the direction of elaborate complexity. Courts-martial are essentially courts of equity, and officers sitting thereon are jurors and lay judges combined to determine the facts and administer justice. The practice of general courts should be simplified, and technical obstructions be removed, and when a soldier desires it, an officer should be assigned for his defense. The Judge Advocate should not undertake both prosecution and defense, except with the full consent of the prisoner. Nor should he remain in the court when it is cleared for deliberation. The prompt and economical administration of justice might be greatly facilitated by an intermediate court, to be appointed by either the post commander or the next higher authority, for the trial of the lighter offenses of enlisted men now brought before a general court. It should be composed of from five to seven members and a judge advocate. Only so much of the testimony should be taken down verbatim as the court may direct. A summary of each witness's testimony, approved by him, should be a part of the proceedings, and the action of the court should be subject to the approval of the convening authority, and the prisoner should have the right of appeal to a general court. The present absurd restriction as to the hours of session should be removed.

When the defendant is acquitted or when the sentence does not involve confinement, power should be vested in the president of the court to order the release of the enlisted man from the charge of the guard. One half of the fines of courts-martial might well be forfeited to the ordinary post fund, or to a special local fund, so that the deserving men on whom the additional duty of the culprits falls, might reap from their misdeeds some present compensation as well as have the prospective benefit of the Home.

When men are found guilty of scandalous offences, and particularly of desertion, there should be a form of public degradation in the presence of the command. The men themselves will not be injured, in the sense that a civilian would be in the presence of his neighbors, for a part of the sentence of the disgraced soldier would be his permanent exclusion from the Service, and his enforced absence from the garrison, while the deterrent effect upon the men, and the stigma that it would fix upon the crime would be educational. Desertion will be treated later.

There should be two grades of prisoners in the military prisons. Those who are to rejoin their colors and those who have been dismissed or convicts. The treatment of the former should be punitive but not degrading. Their work should all lie in the direction of their future military efficiency. The convicts should be kept apart, and besides severe punishment they should be educated toward civil self-support. The prisons themselves should not be conducted so as to be more attractive physically than duty in the ranks. It has happened that spiritless men have deliberately sought such confinement to avoid the hardships of military life, and perhaps to secure an earlier release from their engagements.

#### THE RANKS AS A SCHOOL FOR OFFICERS.

The French soldier may carry a marshal's baton in his knapsack, and from the chevrons of any American sergeant the stars may evolve. But, contrary to popular feeling, I do not look upon the ranks as the best or even as a good school from which to graduate with a commission. In saying this I wish to distinctly assert that I have had the honor of personal acquaintance with a number of officers, and a knowledge by reputation of several more, all raised from the ranks before the Rebellion. Without exception they deserved and attained high rank and they were, and are, in my judgment among the very best officers in the Service. Before being raised they were carefully observed, not simply as to courage, but as to natural intelligence, principle and native courtesy. They were then carefully selected by officers who appreciated the delicacy and responsibility of their duty and the result, certainly so far as those who survived the outbreak of the Civil War goes, justified their action. With similar care equal men can doubtless be found to-day, but at any one time they are very few in comparison with the size of the army. But during



and since the war many admirable sergeants were spoiled by transmutation into very poor officers. Here, also, I wish especially to note as exceptions a number, some of whom are personal friends held in the highest respect. But beyond the exceptions there were made from the ranks so many ignorant, unrefined, and occasionally corrupt officers who bestowed no honor upon the Service and whom the honor of the service could not effectually envelope, as to establish the probabilities against obtaining in that way real leaders of men. Intelligence, moral force and vigor are necessary to control the rank and file, and education and social culture are required to discharge those higher duties, than merely superintending the fire of a company, that must devolve upon an officer. Simple courage is the most matter-of-course quality and the very last to be considered in such selection. It is no more a compliment to a man to say that he is brave than to a woman to say that she is chaste. Tactics is a matter of memory and of practice. The ranks, especially in peace, afford very little opportunity for the development or the exhibition of higher qualities. They may, unhappily, coarsen the youth whose sensibilities are delicate and whose principles are not robust. I do not believe that, under ordinary conditions, it is judicious to encourage young men to enlist in the hope of winning a commission, nor to make other than the most careful trial of all aspirants from the ranks. The conditions under which volunteers are raised for war are wholly different, and volunteer troops afford an excellent field, from which to select (not to elect) volunteer officers. During the Rebellion a certain number of commissions were awarded men who had enlisted merely nominally—whose services were technical, in order to conform to arbitrary rulings as to such appointments. These afford no precedents and have no value in determining the question *pro* or *contra*. The practical solution that I would propose for this delicate question is this: a young man who would enlist for a commission should first be examined by a board of officers as to his general education and his physical qualifications: if approved he should be enlisted for three years in the special arm for which he applies; he should then be sent in ordinary course to a regiment without favor or selection, and should serve with it two years; for the third year he should be attached to a company at the school of his arm and be required to apply himself to a theoretical course of instruction especially arranged for applicants, and be exempt from all fatigue except as a non-com-

missioned officer. At the close of his enlistment he should be carefully examined in connection with his record and if approved be commissioned. Such an applicant should be discharged at any point of his enlisted career that he may desire, provided his conduct has been good; but such discharge, or failure to pass his examination to be a perpetual bar to a commission. An ordinary soldier who desires to try for a commission should be transferred to the three-year class of applicants in like manner, his previous service not to count in his novitiate, and misconduct at any time working his re-transfer to the ranks. A commission in the United States Army deserves very careful and prolonged effort, and the man unable or unwilling to serve the probation just suggested shows his unfitness *ipso facto*. No candidate who is married or is more than 28 years old should be appointed.

#### PAY OF THE ARMY.

The pay of the army, except for the higher grades of non-commissioned officers, is sufficient if not liberal, and the allowances are adequate. But the mode of payment is atrocious. It is convenient for the Government but is ruinous to discipline, to habits of economy, and to the temper of the men. Soldiers are never paid oftener than once in two, and sometimes but once in four months. With rare exceptions they at once spend, and generally to their own hurt, the comparatively large sums that then fall into their hands. The soldier becomes a mere medium for the transfer of his pay from the disbursing officer to the trader. It is unnecessary to remind a military reader of the strain that pay-day puts upon all the resources of discipline, moral and physical. It is contended by the Pay Department, with much show of reason, that it is impossible to make more frequent payments without waste of money and a great increase of clerical work and of the pay force. It is impossible within the limits of this essay to elaborate a system of payments at intervals of from five to ten days for troops in garrison,—in the field it is otherwise; but it is only voicing the opinion of every officer not of the pay staff to say that such payments probably can and certainly should be made. The essential objections usually urged are that the accounts are so complicated as to require skilled accountants and that money in large sums should pass through bonded officers. There is no necessary reason why soldiers' wages should be a peculiarly obscure subject, and, if necessary, the law might be changed. Dis-

cussions like this are to point out evils for remedy, with hints toward, not complete solution of the problems. In the rough the following seems practicable: There is a quartermaster charged with the care of public property, often much greater in value than any paymaster handles at once, and he makes certain disbursements. Now let the company commander prepare pay-rolls in a general way, much as at present but on basis of, say, at the rate of ten dollars a month for a private's pay and the higher grades in proportion. Every six days let the captain give each man a non-transferrable order on the quartermaster, to be paid by him in cash, for one-fifth of this, less (excluding cents) the stoppages that may be authorized. This for the regular pay pure and simple. Once in two or three months a paymaster should visit the post and, while there, review and make up the entire rolls, settling the extra-duty accounts, correcting errors, if any, establishing balances and paying such differences as may remain to the credit of the men. Under such a system the clothing-accounts should be settled once in three or four months. Should a soldier on any particular pay-day prefer not to take his order, it should be passed to his credit as a deposit to draw interest from the time the regular paymaster at his next settlement takes it up. Money due soldiers in arrest or confinement should not be paid, but should be passed to the credit of their retained pay for settlement on final statements. In the field, frequent payments may be suspended in the discretion of the Commanding General,—but that is a question of detail, not of principle.

I am satisfied that such a system is feasible and desirable, although numerous theoretical objections may be plausibly urged by conservative experts to whom the older is always the better way. But officers whose lives are spent in garrison can never desire the perpetuation of a system that encourages usury, gambling, drinking, and, as many believe, desertion. Under the present system, checks instead of cash for extra-duty pay by the quartermaster are a grievance, especially on the frontier. In this connection it may be said that the proposition occasionally made to stop the pay of men off duty as the result of immorality is unwise. Whatever may be the theoretical reasons that would lead to a constructive or actual withdrawal of official favor under such circumstances, in practice it is found that it leads men to conceal complaints until they have reached a stage involving greater trouble and longer care than had they been presented promptly



for treatment. The Government loses more time by such delays and the men are usually in a much more unfortunate state, than if encouraged to go on sick report at once. It would be very difficult to draw the line between the various classes of disabilities not incurred in the line of duty, and as the rain falls alike upon the just and the unjust, in the economy of nature, so, as a matter of public polity, it is better not to erect as a pecuniary barrier between vice and rectitude, the imaginary and tortuous line that really separates the lucky from the unlucky.

#### DESERTION.

Desertion imposes an almost Danaidean task upon the military authorities, to whom its persistence and extent are a constant vexation and mortification. It creates one-third of the annual casualties. Each year three thousand men must be recruited to replace these unauthorized losses; or, during a single term of enlistment, fifteen thousand recruits are required to replace those who have been faithless in an army of twenty-five thousand men. Desertion, next to mutiny, is the gravest military crime and is due primarily to an indefensible public sentiment that looks upon the runaway as a persecuted fugitive from oppression, rather than a criminal renouncing vital engagements solemnly undertaken. The average civilian will shelter the deserter, while he would not hesitate to point out any other public, or indeed private, servant whose absconding involves fraud, loss, and the violation of a solemn contract. It has even been extenuated by one of the great dailies, and this a paper of deserved influence, as nothing more than the exercise of a striker's right; and a general officer, whose rank presumably required respect for his opinion, went so far as to say, in effect, that the General Government performs a praiseworthy service in transporting men to the West and then allowing them to desert. The popular infatuation—are deserters so numerous as to constitute a possible class at the polls, could their disabilities be removed?—the popular infatuation has gone so far as to authorize the introduction in Congress of a bill to relieve any deserter from all his penalties, if he can keep out of the way of justice for two years! Although encouraged by this lax civil sentiment, and by the approximate certainty that he will only be molested by accident, there must be conditions to favor the disturbance of the soldier's moral equilibrium, already in an unstable state by reason of his recent translation from the civil situ-

ation. For most desertions occur in the first year of enlistment. It is manifestly better, therefore, to secure recruits of good character. Two who will stay are both less costly and better than three, one of whom is sure to decamp. It is in this direction that country recruits, whose moral sense is stronger, are preferable. It is also in this direction that the cultivation of soldierly sentiment should be begun early and continued unremittingly.

The essential causes for early desertion are disappointment and overpersuasion. Men find that a soldier's path is not altogether easy and lies between somewhat narrow lines, and they repair their mistake as best they know how. The influence of sweethearts and wives, abandoned in a pet, also re-asserts itself, and men with these entanglements break away in desperation. The plan of conditional enlistments, while it might not materially reduce the number who would retire, would relieve both them and the Service of the crime and its odium. One form of disappointment, or more properly of discouragement, is the semi-annual settlement of the clothing-account by the calendar, regardless of the length of the recruit's service. Men often find themselves penniless after several months' duty, owing to stoppages for articles that they are compelled to procure. If the present system of payments is continued, the first semi-annual settlement of the clothing-account should be passed. A considerable experience leads me to believe that the popular notion that men desert to escape harsh treatment is totally baseless,—that is, harsh military treatment. An excessive amount of general fatigue, of long-continued daily duty, generally in connection with the construction of new posts and not involving extra remuneration, does lead to desertion. This is probably the most potent objective cause, and it can only be relieved by congressional action in more liberal appropriations for civil labor. Civil labor, rigidly inspected, is in the end, always more economical than labor by troops, independently of the demoralization that the latter creates. Although unmerited harshness rarely drives men from the army, insubordinate men, upon whom the reins of discipline are tightly drawn, sometimes prefer the freedom of dishonorable flight to the difficulty of reform. These are almost invariably drunkards, and apart from the fact of the desertion, *per se* their departure is a blessing. It is probable that the popular official opinion that men enlist with the deliberately preformed intention to desert after being transported to some particular locality has no foundation what-

ever. Restlessness, such as a sailor's life pre-establishes ; previous desertion, with its fear of detection or its tendency to repetition ; the hope of high earnings, as after the sudden discovery of mines ; and general bad character, want of regard for engagements and a hatred of orderly routine, are a group of causes that all tend in this evil direction. It doubtless sometimes happens that a foreigner, enlisted without a proper knowledge of the language, deserts in despair ; that a man is ridiculed, with or without cause, till company life becomes unbearable ; that habits or peculiarities unknown to his officers lead a man to be excluded by moral pressure, and occasionally by physical force ; and that sometimes a persistently poor mess-table or prolonged service of real hardship leads to desertion. But these are rare and occasional. That there is no inherent essential cause for dissatisfaction, nothing that forces good men into desertions, is shown by its comparative rarity among the older soldiers and that, notwithstanding the constant influx of recruits necessary to replace the newer men who have deserted, nearly one-third of the whole number of enlisted men have served at least one entire enlistment. Where a soldier deserts after his first enlistment the cause is invariably with the man. He has committed some lapse, usually very grave, and he flees to avoid severe punishment, deserved and prescribed. Besides the various meliorations of military life already suggested, and such intelligent education of both the civil and the military population as will lead to its greater reprobation, all the moral and physical machinery of the army should be brought to bear to make desertion infamous. A few deserters sincerely repent and surrender. A careful selection among such cases and their restoration to duty without trial would do much to show the rank and file that justice is tempered by intelligent mercy. Two of the very best and most faithful soldiers I ever knew were surrendered deserters, and doubtless there are many more who have sincerely repented and done works meet therefor. But the surrender of a deserter should not be waited for ; he should be sought after in every reasonable direction and be unremittingly pursued. A large reward should be paid, not for his delivery at a military post which often is a costly and troublesome procedure to a civilian, but for his detention by civil authority until the military can send for him ; and it should come to be understood that the hand of the Government will certainly and promptly arrest the fugitive. When convicted, his punishment should be exemplary and his



degradation be public, and, if possible, his trial should be at the station of his company, for the sake of example. There should be no trifling with a deserter. It was misplaced sympathy that induced a well-known General for years to neutralize the action of courts-martial by habitually disapproving their dishonorable discharge, and retaining upon the muster-roll, and ultimately returning to their steadfast comrades, these faithless men. Sympathy is generally lost upon them, and material remission of sentences is interpreted as a partial apology. So also their release from the military prisons, on the plea of overcrowding, is hurtful in its effect. No soldier should be able to disband himself by violent means, either directly or indirectly, before the expiration of his full term of enlistment. If the military prisons are overcrowded there remain the means of confinement (although much to be deprecated) that were used before they were established, and a very little energy will create other and more suitable places. There is, after all, a curious fascination that often leads men to return to the army, under false pretenses, after dismissal. So far as deserters are concerned, this should be guarded against by an indelible mark, to be inconspicuous in character and position. A blue circle or dotted cross, not to exceed one-fourth inch in diameter, on the inner side of the arm (by the armpit) could be tattooed without moral or physical injury to the man, and is recommended. The sentimental objection to such a procedure is pseudo-humanitarian and not in the interest of sincere philanthropy.

#### MARRIAGE.

The hostages that a married man yields to fortune, pledges him in civil life to conservatism. A married soldier finds himself crippled and hampered at every turn, and the public service is positively impeded by wives and children. As a great indulgence, marriage may be allowed the non-commissioned staff, but to none of lower grade. Exceptions may be made in favor of those laundresses whose presence was authorized by the older regulations and whose husbands remain. But beyond the foregoing, camp women should be forbidden. Marriage should be a bar in reality, as it is nominally, to re-enlistment and men marrying against order should not be allowed to quarter their families within the lines. Nevertheless, the fact of marriage, concealed or acknowledged, should not authorize a soldier to demand his discharge.

## AFTER ACTIVE SERVICE.

There is a type of enlisted man who, from having served one or two terms for which he was generously paid, and in which he received no harm but of his own making, will establish himself near a garrison and become a nuisance to all whom he can reach. Five or ten years' peaceful service give no man a prescriptive right to regard the quartermaster's, or any other department of the army, as organized and supported for his personal benefit. A soldier whose enlistment has expired, and who prefers the chances and trials of civil life is to be encouraged in making his better pecuniary way in the world, or to be welcomed again to the ranks should he prefer to return thither. But he is not to be countenanced as a listless hanger-on without the gates. But with years and duty the soldier who has rendered honorable service deserves well of the Republic. He has borne his life in his hands, an offering for the public good. His comrades have filled unnoticed graves from everglade to cañon. Exposure and hardship have bronzed his face and stiffened his limbs, and the friends of his youth are in other paths with other interests. He has had human frailties, but he has also had manly devotion, and the raw boy who, half in ignorance, swore to obey the orders of the officers appointed over him, has become the faithful soldier through whom and his fellows alone have those officers been able to discharge their own duties, and upon whom, as on a strong arm, the physical security of the Nation has rested. The enlisted soldier rarely has a pen or a voice given to his public praise; yet, man for man, the regular troops of the United States have no equal in intelligent and sustained valor and soldierly devotion. In Mexico, a nucleus and stimulating centre, instilling courage, and sustaining, by disciplined example, invading volunteers victorious over numbers. When Secession tempted, and their officers went astray, not a man wavered. Against rebels in arms, too few to turn the field by their own weight, the superb steadiness of their infantry everywhere imparted confidence, and more than once saved vast hosts, while twice by the historic Bull Run, alone, they were proclaimed the saviors of the field. And the valor of the infantry fitly supported the brilliancy of the artillery—the dash of the troopers. In so-called Peace they have shown the same good qualities as in War. The nameless privates through cold and heat, against Indian craft and in open fight, have preserved the in-

herited reputation, fire-gilt and resplendent as it was from the fierce beauty of battle.

When physical infirmity takes these men from the field, there should be appropriate provision for them. They are neither saints nor demi-gods. They are men; often rough in body, ignorant of books, and sometimes deficient in the minor morals, but strong in the sturdy virtues of obedience, truthfulness, fidelity. Prevented from forming family ties, they are friendless in the social world, and with a long training that has eliminated all personal responsibility, beyond that of submission to authority, they are as guileless and as helpless as children in the sharp competition of civil life. With few internal resources, they must be occupied from without or they will be miserable; and with habits of discipline, but not of continuous labor, they are not fitted for persistent work. To many the Home, with its indolent ease, is a purgatory. The retired list after thirty years is a well-merited boon, but the limit should be lowered to twenty-five years, certainly for service below that of the non-commissioned staff. Not one man in ten thousand can carry a musket more than twenty-five years. And a corps of watchmen in garrison and over the public civil buildings might well be opened to the retired enlisted soldier.

D. Q. 91.



## APPENDIX TO PRIZE ESSAY.

LETTERS FROM THE BOARD OF AWARD ON THE ESSAYS SUBMITTED IN COMPETITION FOR THE GOLD MEDAL OF THE INSTITUTION.—SUBJECT, "THE ENLISTED SOLDIER."

## I.

U. S. MILITARY ACADEMY,  
WEST POINT, N. Y.

Aug. 24, 1886.

When I first read the essays I marked "D. Q. 91," highest.

In reading the essays again I concluded "Romney" had much merit.

As between "D. Q." and "Waechter," I would vote for "D. Q. 91," though I consider "Waechter's" paper a very good one.

My vote will then stand :

1. "D. Q. 91."
2. "Romney."
3. "WAECHTER."

W. MERRITT.

## II.

FORT WADSWORTH, N. Y. H.

July 19, 1886.

Having examined the eleven (11) essays now in competition for the Annual Prize Medal, I classify them in order of merit as follows :

1. The Essay of 61 pages entitled "The Enlisted Soldier," and signed "Waechter." (Marked by me with a blue cross.)

- |                          |                    |
|--------------------------|--------------------|
| 2. "Romney, 116."        | 7. "Asotin, 44."   |
| 3. "Quantum Meruit, 58." | 8. "A., 48."       |
| 4. "D. Q., 91."          | 9. "Tarleton, 74." |
| 5. "Gemini."             | 10. "Star."        |
| 6. "Andrea."             | 11. "Cascabel."    |

HENRY W. CLOSSON,

*Lt.-Col. 5th Artillery.*

## III.

NEW YORK, Aug. 1, 1886.

The essays on the "Enlisted Soldier," by "Romney," "Tarleton," and "Gemini" are good—nearly equal in merit, as regards treatment of the subject and style; if any difference, in my opinion, "Romney" leads. I think all three deserve "honorable mention."

The Essay by "Waechter, 51," is better, but the Essay by "D. Q., 91," is best of all, in my opinion.

I give the Medal to "D. Q. 91"; the second place to "Waechter, 91," and "Honorable Mention" to "Romney," "Tarleton" and "Gemini."

JOHN R. PAXTON.

REMARKS OF MAJOR-GENERAL J. M. SCHOFIELD on the occasion of the presentation of the Gold Medal awarded by the Military Service Institution for the Prize Essay—1885 :

The Presiding Officer has been pleased to impose upon me the agreeable duty of presenting to the successful competitor the prize awarded by the Institution for an essay adjudged to possess the greatest merit.

The subject of the essays was "Our Enlisted Soldier." No more important one could have been selected. All other things in the Military Service are preliminary or accessory to the power of the bodies of enlisted men, as they confront the enemy on the field of battle. Hence the selection, education, training and care of the enlisted soldier, and in general his complete preparation for the supreme service required of him on the day of battle is the paramount duty of all in the Military Service.

A large number of essays were submitted upon this all-important subject. They were prepared by officers representing all branches of the Service, and distinguished for ability as thinkers and writers upon military subjects. Under the rules of the Institution, all these essays were submitted to a Board composed of able members of the Institution, and in such manner as to insure absolute impartiality of judgment. The award for the best of all the essays submitted has been made to Lieutenant-Colonel A. A. Woodhull, Surgeon U. S. Army.

Colonel Woodhull : It affords me great pleasure to present to you the *Gold Medal* which has been awarded by the Military Service Institution for the superior excellence of your essay upon the important subject, "Our Enlisted Soldier." And I congratulate the Military Service upon the presence in its ranks of men capable of such intelligent devotion to its welfare.

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Lieut.-Colonel A. A. WOODHULL in accepting the Medal said : "I am deeply sensible of my good fortune in securing a prize to which such honor is attached, and I do not pretend to conceal my satisfaction. But it is not as a personal compliment that it has for me its greatest value. I am chiefly gratified in that, through one of its inconspicuous members, the Medical Corps has been able thus to exhibit that it has a deep interest in, and a reasonable knowledge of, the needs and the duties of the rank and file, and to demonstrate in this manner that its close official association with all grades of the Line, results in an intelligent and sympathetic appreciation of their requirements. Medical officers of the Army are not mere professional care-takers of the sick and dressers of wounds ; their lives are spent in camp and garrison, sharing equally the discomforts and the pleasures of the active forces. Their duties, more than those of any other branch of the Staff, are with the troops ; and they are concerned not merely in removing immediate and present obstacles to efficiency, but in foreseeing and advising against those yet to be encountered. Their honorable loss of more officers killed and wounded in battle, during the Rebellion, than was suffered by all the other staff corps combined, is a convincing title to their claim to be *of* the Army, not merely attached to it, and I trust, sir, that the literary venture of whose fortunate regard by the officers this medal is the beautiful token, may commend itself to that larger audience in whose distinctive interest it was prepared—the Line of the Army."

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# THE MODERN FIELD SANITARY SERVICE AND ITS APPLICATION TO THE UNITED STATES ARMY.

BY CAPTAIN VALERY HAVARD,

ASST. SURGEON U. S. ARMY.

IT is notorious that, until recently, the care of the wounded, if thought of at all, entered as an insignificant factor in the plans and dispositions of a General preparing for battle. The killed and wounded were regarded as the inevitable tribute of blood exacted by the demon of war, and therefore excluded from practical sympathy. Happily, a great change has come over the spirit of military men and of the general public in the last quarter of a century; experience has shown that prompt and effective aid to the wounded need not hamper field operations, and modern philanthropy would no longer permit the spectacle, so often exhibited, of thousands of wounded men lying unrelieved, wherever they fell, hours and days after the last shot of the battle had been fired. It is a great step from the Peninsular War, when Wellington declared he would have no vehicles with the army but for the conveyance of guns, to the last year of our Civil War, when, for the first time, the wounded had the benefit of a regularly organized ambulance corps. It is, likewise, a great step from our ambulance corps, as established in 1864, to the field sanitary service of the German Army, as defined by the Kriegs-Sanitäts Ordnung of 1878. The present rational system of giving aid to, and removing, the wounded by an organized body of trained stretcher-bearers was first adopted in 1869 by Prussia, which has since developed and perfected it. It was introduced in the English Service in 1879 and in the French Army in 1884. Since the close of the Civil War our field medical system has practically remained unchanged, apparently uninfluenced by the great modifications effected in that of European armies. It is



the purpose of this paper to show how far and in what direction it is susceptible of improvement. To that end I shall ascertain, by means of statistics, the ratio of wounded for which provision is to be made, and briefly review the field sanitary system of the leading European armies. Having thus the data which statistics and the experience of the latest wars can furnish, I shall endeavor to draw the outlines of the modern perfected system of relieving the wounded in the field, and to indicate in what way it can be applied to our own Service.

#### STATISTICS.

I believe it is generally admitted that the ratio of killed and wounded to the total strength present in modern warfare is less than before the use of breech-loading, long-range guns. The fighting is less general, murderous where charges and assaults are made and withstood, slight in other places, while several divisions or corps may remain totally unengaged. The general result is a comparatively low ratio of losses for the whole army, but very high for the fighting troops. As the corps which bear the brunt of the fight cannot generally depend upon outside assistance and must, at least during the action and immediately afterward when prompt relief is most efficacious, take care of their own wounded, it follows that the strength of the medical department must be based upon the casualties suffered by the troops actually under fire, and not on the general ratio of injuries for the strength of the whole army in the field.

It is only after pitched battles that the worth and efficiency of the medical department are thoroughly tested; it is then that by prompt and effective help it can save hundreds of valuable lives. We must, therefore, in computing statistics only take the percentage of casualties of the important battles of a war or campaign. If, on the contrary (as some military men are inclined to do with an eye to the reduction of, impedimenta), we take account of all the engagements, whether important or trifling, as the latter always largely preponderate and decisive battles are comparatively few, we shall obtain a very small rate of injuries. Any medical establishment based on such rate would be most inefficient and break down when most needed.

It is also necessary to take the returns of both armies, the defeated as well as the victorious, not only because the fortune of war is fickle and provision should be made for defeat as well

as for victory, but also because it will generally happen that the victors must take care of more or less of the wounded of the retreating army.

Bearing well in mind the foregoing considerations, I have carefully computed the statistics of the wounded in the principal wars of the second half of this century.

In the Franco-Austrian war of 1859, at the battles of Magenta and Solferino, the percentage of wounded in the troops actually engaged, taking both sides together, was 7.30.

In the American Civil War of 1861-65, at the battles of Shiloh, Antietam, Murfreesboro', Gettysburg, Chickamauga and the Wilderness, the percentage of wounded on both sides, according to the data furnished Prof. Longmore from the office of the Surgeon General, U. S. A., was 16.61. This high rate, I take it, can safely stand for that of the actual combatants.

In the Franco-Prussian war of 1870, the official account published by the German government shows that out of 1,146,355 Germans who crossed the French frontier, 88,539 were wounded, a percentage of 7.7. If, to the above number, of wounded we add 10,710 who, although counted among the killed, were not really killed in action but "died of wounds," the percentage will be 8.7; this is for the whole strength of the army on French soil; that for the actual combatants could not possibly be under 10, a ratio which we can safely adopt. At Vionville, one of the fiercest battles of the war, the Germans admit a loss of wounded of 15 per cent. The French losses were probably as great as those of the Germans but we have no reliable data of them.

In the Turko-Russian war of 1877 (in the opinion of Prof. Pirogoff, the bloodiest of wars since Waterloo), the mean percentage of wounded admitted by the Russians at the three pitched battles of Shipka Pass, second and third battles of Plevna, was 17.34 of fighting troops.

In collating the above figures, we find that, in the most recent of modern wars, the mean percentage of wounded in troops actually under fire has been 11.97.

The mean of Prof. Longmore's percentages in recent wars, from Magenta in 1859 to Sedan in 1870, computed, with one or two exceptions, for the total strength present, is 10.07 which would be sensibly raised by the percentage of the Turko-Russian war of 1877. It would be remarkably close to mine, as obtained above, if computed for troops actually under fire.

F. Phisterer, in his "Statistical Record" concludes that, during the American Civil War, out of the total number of men furnished by the States and Territories, one out of every ten was wounded in action.

Lieut. Totten, in his "Strategos," finds that the mean percentage of casualties for the seventeen decisive battles fought during the period from the Alma in 1854, to Sedan in 1870, is 13. If we estimate the ratio of killed to the wounded for that period as one to four, his percentage of wounded, mostly for all troops present, will be 10.4.

From a careful consideration of the above statistics as well as from the concurrent opinions of authorities, we may set it down that, among troops under fire, *a percentage of ten wounded is the minimum basis upon which to organize the medical department in time of war.* It is the basis practically adopted in the English, French and German armies. General Wolseley in his "Soldier's Pocket-book" says: "All our regulations for the provision of ambulances are based upon the assumption that ten per cent. of the 32,000 men of an army corps that would possibly be under fire would be wounded."

#### RATIO OF KILLED TO THE WOUNDED.

The improvements made in the power and range of fire-arms seem to have had the effect of steadily increasing the ratio of killed to the wounded. I leave out of consideration the hand-to-hand conflicts of the last century, and the battles of the Napoleonic era in which the sabre and bayonet played such an important part, and limit myself to the wars of the second half of this century.

In the Franco-Austrian war of 1859, the ratio was 1 killed to 5.6 wounded. In the American Civil War (if we accept the returns of Vol. I of the "Medical and Surgical History of the War" as sufficiently correct for our purpose), the ratio was 1 to 4.5. In the Austro-Prussian war of 1866 (according to the figures of Prof. Longmore) it was increased to 3.2. In the Franco-German war of 1870, the official account of Germans killed and wounded gives the ratio of 3.1. In the Turko-Russian war of 1877, from the returns of the second and third battles of Plevna and that of Shipka Pass, the ratio was 1.8. In the famous assault of the Grivitza Redoubt, at Plevna, the Roumanians had more men killed than wounded (1,335 killed against 1,176 wounded).



This increasing fatality of wounds in modern warfare points to a higher degree of gravity of the wounds inflicted, therefore to a greater need of the prompt intervention of the surgical art on the battlefield.

#### GENERAL PRINCIPLES GOVERNING THE ORGANIZATION OF THE MEDICAL DEPARTMENT IN THE FIELD.

Regarding the organization of the medical department in the field, there are general principles substantially agreed upon as established by experience, which may be now set down for the better comprehension of what will follow :

1. Combatants should not leave the ranks to carry wounded comrades to the rear. The great evil of every wound, however slight, being made a pretext for the falling out of an indefinite number of volunteer bearers must be prevented by providing an adequate corps of special stretcher-bearers.

2. The forces of the medical department should not be too much divided but rather kept together in conveniently large bodies under the direction of responsible and experienced chiefs. In accordance with this principle, regimental and brigade hospitals are abolished and the division has become the unit of medical organization. With this concentration, better results are obtained with economy of men, material and time.

3. The personnel and matériel provided for the battlefield should be essentially movable, that is, always able, at short notice, to follow the troops in their movements forward and backward. The modern ambulance corps and field hospitals are especially organized with a view to their mobility so that efficient help to the sick and wounded be always at hand.

4. The medical department in the field should have its outfit in such complete and perfect order, and its personnel so thoroughly trained and organized, as to be fully equal to the emergencies of war and leave nothing to chance and hasty improvisation. Inventive aptitude in the military surgeon is a valuable quality, but the forethought and mental grasp exercised in providing beforehand against the hour of need are of infinitely more account to the wounded.

Technical training for nurses and stretcher-bearers is essential ; on such training depends the efficiency of the ambulance corps. It is rendered no less imperative by considerations of humanity ; to let a wounded man be picked up and carried by unskilled

bearers, detailed at random from the regiment for the purpose, or to intrust him to inexperienced and ignorant nurses, would, in our day, be nothing short of cruelty.

5. The wounded must be picked up quickly and carried away with as little disturbance as possible; that is, once lifted upon stretchers they should remain thereon, as a rule, until they reach the ambulance depot, or, still better, until they are safely laid upon their beds in field hospitals. The liberal amount of transportation allowed in our service should make this possible.

#### STRETCHER-BEARERS.

The wounded, lying on the battlefield, are first removed by means of hand-litters or stretchers. Wheeled-litters of various patterns have been proposed but their use in the field was always found inconvenient, often impossible, and they are now practically abandoned.

Stretcher-bearers in European armies are of two classes: the divisional ambulance bearers, and the regimental bearers. The latter carry the wounded from the field to the regimental help-stations, and the former, thence to the ambulance picket or the depot of the divisional ambulance; both classes assist each other wherever needful. The advantages of having trained bearers in the ranks of the regiment, ready to carry off the wounded long before it may be possible for the ambulance corps to be at hand, are obvious and need no comment.

The experience acquired during the late European wars has demonstrated that a wounded soldier, lying on the ground, cannot be promptly and safely lifted, laid on a stretcher, carried to the nearest vehicle, together with his arms and accoutrements, and placed into it, by two or even three men; four men, making two reliefs, are now told off to each stretcher in all European armies, and this number we must necessarily adopt.

Out of one thousand men more or less engaged in battle, we have seen that at least one tenth, that is one hundred, will be wounded, while at least twenty-five will be killed. With the latter we do not concern ourselves. A majority of the former will not be gravely injured; about two-thirds of them, as has been shown by Prof. Longmore, will be able to walk or stand carriage in the sitting posture. The number of those alone who will be able to walk to the nearest help-station and ambulance picket cannot be determined with precision. In a report pre-

pared in England by a committee on ambulance transport and read before the House of Commons in 1871, it was stated that one-half the wounded can reach afoot the nearest ambulance or field hospital. Such a statement is evidently exaggerated, especially as applicable to the present day. Even were it physically possible for that proportion of wounded to walk such a distance, it would be unwise and inhuman to require it; it is the sense of the best authorities that as many as possible of the wounded should be carried off, and thus spared the danger of irritation and aggravation of their wounds which walking is sure to produce. Upon a careful consideration of the subject, I estimate that, as a general rule, about one-fourth of the total number of wounded can safely dispense with stretcher transportation. Therefore, out of our hundred patients there will remain seventy-five for whom this transportation, if not always absolutely necessary, will be advisable and should be provided. The problem now is to determine the number of stretchers needed for these seventy-five men.

Several questions must at first be answered and data obtained: What available time have the bearers to remove the wounded during the battle and immediately afterward? How far will they have to carry them, and how many trips can they make?

A modern battle only lasts a few hours, seldom more than five or six; all the important engagements of the Franco-Prussian and Turko-Russian wars were fought and decided before sunset. While the battle rages, the bearers are compelled to more or less inaction from the difficulty of reaching patients, and will seldom have more than three or four hours of active duty. If we further assume the limit of time, after the close of the fight, beyond which wounded men should not be left unattended, to be three hours, it follows, in conclusion, that the bearer, will have six or seven working hours within which to give the first aid to, and remove, the wounded from the battlefield.

Patients must be carried on stretchers to the nearest ambulance picket. This ought to be as near as possible to the line of battle, just beyond the range of bullets—a distance which will seldom exceed half a mile. There, ambulances are not safe from stray artillery projectiles, but it is a reasonable risk to which they may be exposed. After the battle, the ambulances of the victorious army drive as near the battlefield as roads or the nature of the ground will permit.



Some experiments were made by Prof. Longmore to determine the time occupied by trained bearers in carrying wounded men on stretchers. It was found that to remove the accoutrements from a soldier, apply a simple dressing, carry him, his rifle and accoutrements, a distance of one measured mile over moderately rough but still level fields, lift him off the stretcher and return with the empty stretcher, one hour must be allowed. As already stated, bearers will carry their burdens seldom more, and often less than half a mile; in seven hours, therefore, were they able to work continuously without delay, rest or accident, four men with one stretcher would remove at least fourteen patients. Making due allowance for all causes of delay, needed rest and the contingencies of their service, we may fairly estimate that, in practice, a detachment of four bearers will be able to attend to ten or twelve patients. Consequently, for the removal of seventy-five, that is, the number of wounded needing transport in a regiment of 1,000 men, from six to seven stretcher detachments will be required.

#### THE FIELD MEDICAL DEPARTMENT IN EUROPEAN ARMIES.

We find that in all European armies the division is practically the military unit of medical organization, and that the divisional field service consists of three lines of help: the regimental help-station, the divisional ambulance, and the field hospitals.

*Germany.*—Each regiment (of three battalions of 1,000 men) has a medical personnel of six surgeons, twelve nurses, and forty-eight stretcher-bearers. One-half of the surgeons, with one-half of the nurses, accompany the troops into action; the remaining surgeons and attendants establish the regimental help-station (*truppenverbandplatz*) in the rear, generally beyond the reach of musketry fire. The medicine wagons, one to each battalion, are driven as near the help-station as is safe. The two surgeons of the battalion are each attended by a bearer with the bandage knapsack; the other bearers take the stretchers carried in the medicine wagons and proceed to the front.

The division ambulance, or *Sanitätsdetachment*, has a total personnel of 248 men, of whom 159 are bearers and 16 nurses. Three *Sanitätsdetachements* are attached to each mobilized army corps: one to each of the two infantry divisions; the third remaining at the disposal of the General commanding, for duty with corps troops and as a reserve. Each is complete in itself, equipped

for independent action, and divisible in two sections. Its matériel consists of eight four-wheeled ambulances, two four-wheeled medicine wagons, and two four-wheeled baggage wagons. The *hauptverbandplatz* or depot of the *Sanitätsdetachment* is located at a safe and convenient place behind the division. Here all patients are brought, examined and dressed, and urgent operations performed. The ambulances advance beyond the depot as far as they can toward the front, and stop in a sheltered spot; the *wagen halteplatz*, corresponding to our ambulance picket. The regimental help-stations are provisional and temporary; they are established at the beginning of an engagement, and discontinued (unless still found necessary) as soon as the divisional dressing-station (ambulance depot) is in working order. The personnel of the discontinued help-stations, followed by the battalion medicine wagons, reinforces the dressing-station, which, if hard pressed, also receives assistance from the field hospitals in the rear. The regimental bearers, after the help-stations have been merged in the general dressing-station, assist the divisional bearers if needful, or else are sent back to their companies.

The third line of help is made up of field hospitals, twelve of which are assigned to each corps, or four to each division; they move with their respective divisions.

*France*.—Each regiment (of three battalions) has a medical personnel of six surgeons, twelve nurses, and fifty-two stretcher-bearers. Surgeons do not accompany troops into action; they establish the regimental *poste de secours* just back of the battalion reserves. The medicine wagons, one to each battalion, are driven as near it as is safe. The bearers take the stretchers carried in these wagons and proceed to the front. As in the German army, they are combatants and remain in the ranks up to the time of battle.

Each army corps possesses four *Ambulances*: one for headquarters, the corps troops and as a reserve; one for each of the two infantry divisions; one (smaller and without stretcher-bearers) for the cavalry brigade. The *Ambulance* of an infantry division has a personnel of 147 men, of whom 98 are stretcher-bearers. Its matériel consists of six two-wheeled and four four-wheeled wagons for the transport of the wounded, two medicine wagons, two administrative wagons, six wagons for provisions, tentage and baggage, one wagon for the transport of the personnel. The ambulance depot is practically as in the German army; the

*postes de secours* are more independent of it and may be continued to the end of the battle.

The third line of help is made up of field hospitals which, in almost every respect, are as in the German system.

*England.*—Each regiment (of three battalions) has a medical personnel of three surgeons and forty-eight attendants (bearers and nurses). Colonels are authorized and advised to have enough men trained to double the number of attendants when necessary. One stretcher for each company (eight per battalion) is carried in the company cart. When an action is expected, the bearers leave their rifles and valises in the carts and march with stretchers to the scene of battle. They remove the wounded to the "collecting station" in the rear of the regiment.

The divisional organization corresponding to the *Ambulance* of the French is the "Bearer Company." An army corps has eight of them; two for each of the three infantry divisions, one for the cavalry brigade and corps troops, one as a reserve. Each "company" is complete in itself and is not to be divided. Its personnel, excluding the officer and men of the commissariat and transport corps, consists of sixty-six men. Both regimental and divisional bearers remove the wounded from the scene of action to the "collecting station," and place them in the ambulances to be carried thence to the "dressing station." But little attention is given to the dressing of wounds until the patients reach the "dressing station."

The field hospitals make up the third line of help.

The Austrian and Italian field services are practically organized on the German system and need no description. In all the above armies, a certain number of men are yearly trained and instructed in the special duties of stretcher-bearers and nurses so that, at all times, each regiment of infantry contains enough qualified men for its own service and its quota to the divisional ambulance. To sum up in a general way: We find in European armies, in each division of troops, two medical organizations, separate but acting conjointly, the regimental service and the divisional service or ambulance. The first, consists of about twenty men per battalion 1000 strong, sixteen to act as bearers and four as nurses. The second, consists of from one-half to two-thirds that number, namely, ten to fifteen men per battalion, eight to twelve to act as bearers and the rest as nurses. In all, from thirty to thirty-five men to each



thousand combatants. To express it in another and more practical way: The personnel at the regimental service is 2 per cent. of the combatants while that of the divisional ambulance is from 1 to 1.5 per cent.

#### UNITED STATES FIELD MEDICAL SERVICE.

Let us now turn to the United States Army Regulations and see what provisions are made therein for the wounded on the battlefield. To each regiment of 500 men or more, three ambulances are allowed, and three privates to each ambulance; of these, one is driver, the other two are for duty as stretcher-bearers and nurses. The allowance of ambulances is sufficient; it is, as it should be, more liberal than that of any European army. As to the personnel, we have only six men per 1000 if the regiment be full, that is less than one-fourth the number allowed in Germany, France and England. Even if the regiment be reduced to 500, the ratio is still conspicuously insufficient. The result will inevitably follow that, in the absence of an adequate force of regular bearers, men in variable numbers will fall out from the ranks to carry the wounded to the rear, and one of the great evils which the rational modern system of field medical organization is intended to remedy will continue to exist. Again, the Regulations provide but one class of bearers, namely, the bearers of the ambulance corps; there are none on immediate duty with the regiment, so that if the latter, getting under fire, does not happen to be followed by a section of the ambulance corps, its wounded are left without the benefit of trained assistance. This gave rise to unfavorable comment during the war.\* In the third place, the men of the ambulance corps are not trained for their duties in time of peace as in Europe, nor, in the event of war, are they insured a regular course of instruction. Their technical education is left to the discretion of the commandant of the ambulance corps who, during the hurried mobilization of his forces, can have but scant opportunities for giving it.

Let us see what, in this country, would be the probable com-

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\* Gen. Hazen, in a letter to Asst. Adj.-Gen. Wm. D. Whipple, dated June 7, 1864, wrote: \* \* \* At Resaca, where the brigade lost 250 men, there were but few, if any, stretcher-bearers upon the field, and the wounded were removed by details from the efficient fighting command. \* \* \* At the affair of the 27th of May, where my brigade lost over 600 men, there was but one stretcher to be found anywhere about the field, and that far to the rear. The men who were carried off the field at all were carried by the members of the command, on guns, poles and in blankets, and 17 of the wounded are known to have fallen into the hands of the enemy from this neglect.

position of an army corps in war time, and how the modern rational system of relief to the wounded can be applied to it.

As to the strength and organization of an army corps, the Regulations are silent, so that we have only the experience of the past to guide us. It would probably consist of three divisions, each division of three brigades, and each brigade of four or more regiments. The regiments would at first be full, that is, muster 1000 men, but would soon decrease to 500 or less and thereafter fluctuate within variable limits. This fluctuation was very marked during the Civil War, and the causes that produced it are still extant and would doubtless again operate in the same manner. Our system must therefore be flexible and capable of easy adaptation to any regimental and divisional strength. It is based on the following rule which is simple and applicable to any formation of troops: *To each 100 combatants assign 2 men as bearers and nurses for duty with the regiment, and 1.5 men for duty with the divisional ambulance.*

A regiment of 1000 men will have thirty-five nurses and bearers to take care of its wounded, fifteen permanently detached with the ambulance corps and twenty remaining in its ranks up to the moment of battle.\* As a division decreases, the bearers in excess of the above proportion will be sent to the Headquarters Ambulance Brigade (noticed further on) for distribution to the other divisions if need be. As a regiment is about to become engaged, the senior medical officer on duty with it, from the roll of the stretcher-bearers and nurses, calls for the proportion of men allowed by the above rule, but should be authorized to call for the rest in case of special exigency. As soon as, in the progress of the battle, the ambulance corps men reach the field, the regimental bearers can be sent back to the ranks or else may work conjointly with them as long as their services are required.

#### AMBULANCE CORPS.

The modern ambulance corps operates between the scene of action and the field hospitals, and upon it chiefly devolves the care of the wounded on the day of battle. In front, it works jointly with the regimental service, and may be reinforced from the rear, early in the action, by the staff of the field hospitals.

\* Whether musicians should be trained and employed as regimental stretcher-bearers, as in France, or not, as in Germany and England, is an unsettled matter. The tendency of modern times is to separate and specialize duties.

In the United States, it is the ambulance organization of an army corps. The modern army corps, however, has become so large and is so likely to break up into parts operating separately that its ambulance service does not give the best results if kept together as a homogeneous whole. European experience shows that not the corps but the division should be the unit of ambulance organization. The name of Ambulance Corps, as defined by the Regulations, is too well consecrated by usage to permit of any alteration in form or general meaning; what we can, and all we need do, is to change the composition of the body it designates.

The Ambulance Corps should be made up of independent units, each one corresponding to a division of the army corps and operating with it. The unit thus assigned to a division is the "Ambulance" of the French; it is the "Sanitätsdetachment" of the Germans, the "Sanitätscolonnie" of the Austrians, and the "Bearer Company" of the English. The name of ambulance brigade, which I propose for it, seems to me the most appropriate for the United States Army; it has the merit of originality without clashing with any of the traditions of the Service, and is more exact and comprehensive than any of the above foreign names or equivalents.

The ambulance corps, thus reorganized, will be under the general direction of the medical director as provided by law. It will consist of as many ambulance brigades as there are divisions in the army corps, and an additional one, known as the Headquarters ambulance brigade, for the corps troops (cavalry, artillery, engineers, etc.), and the reinforcement of any divisional brigade in need of assistance. Our hypothetical corps of three divisions would, therefore, consist of four ambulance brigades fully manned and equipped for independent action.

What will be the strength of the medical personnel (bearers and nurses) of an ambulance brigade? Our rule assigns 1.5 per cent. of the command to the ambulance corps; therefore if we have a division 12,000 strong, the Ambulance Brigade will get a detail of 180 men. From this number must be deducted the quota to the Headquarters Brigade, say twenty-four men. Of the remaining 156, thirty-six will do duty as ambulance orderlies. We have now left only 120 men, a number which represents the exact rate of one per cent of the strength of the division. These 120 men are divided into stretcher-bearers and nurses,—ninety-six



of the former and twenty-four of the latter. The ninety-six bearers will man twenty-four stretchers, or at the rate of two stretchers per 1,000 combatants; these two, added to the four stretchers manned by the regimental bearers, give us six stretchers for each full regiment, independently of the help which in case of need could be obtained from the Headquarters Brigade.

The composition of an ambulance brigade is complex. Its total personnel, for a division of 12,000 men, would be about as follows:

1 Surgeon in charge.	2 Buglers.
5 Surgeons.	36 Ambulance drivers.
1 Captain.	36 Ambulance orderlies (nine of whom to be mounted corporals).
1 First Lieutenant.	10 Wagon drivers.
1 Second Lieutenant.	96 Stretcher-bearers.
1 Sergeant Major.	4 Mechanics (blacksmith, wheelwright, saddler, farrier).
8 Sergeants.	
8 Hospital stewards.	
24 Hospital attendants, (nurses and cooks).	Total, 324

As the division dwindles down, these numbers can be reduced correspondingly, all in excess of the proper ratio being sent to the Headquarters Brigade for redistribution.

The matériel will consist of thirty-six ambulances, two medicine wagons, six service wagons for tentage, baggage and supplies, and two water carts.

Personnel and matériel are so organized as to admit of being split in halves, each capable of separate action.

The ambulance orderlies follow the ambulances, or ride on the rear step, and are responsible for the safety and comfort of the patients in transit to the depot and the field hospitals. Each of the nine orderly corporals, besides his own ambulance, will also exercise supervision over three others,—the four ambulances thus under his authority constituting an ambulance section. The twenty-four stretchers will be divided into six sections or four stretchers, each section being in charge of a sergeant designated chief of section.

The Headquarters Brigade need not be so large as the others. It will be made up of twenty-four men from each of the infantry divisions, therefore, in our hypothetical corps, will only have seventy-two bearers and attendants.

#### LINE OF SURGICAL HELP.

The three lines of the field service are, as already noticed;

the regimental help-stations, the ambulance brigade depot and the field hospitals.

On the battlefield nothing can be done for the wounded, while under fire, but to lift them upon stretchers and carry them off speedily to the help-station. Here they are rapidly examined and given such immediate attention as may be required to secure their safe transport to the ambulance depot; time and place seldom permit to do more. As far as practicable, help-station and ambulance-picket should be united so that, after examination, the patients may be at once placed into the ambulances. Wounded men must be dressed and then placed into the ambulances without being lifted off the stretchers on which they are brought.

The modern formation of infantry advancing against an enemy may be practically described as consisting of three lines: firing line, line of support, regimental reserves, with an interval of 300 yards between them. The line of support, placed 300 yards behind the skirmishing or firing line, is supposed by tacticians to be comparatively safe from the fire aimed at the first line, while the regimental reserves are entirely safe from bullets. The help-station should not therefore be further than just in rear of the reserves. This will place it about 600 yards behind the firing line. In certain cases, where good shelter is available and the reserves can get nearer to the front, the station, of course, follows them.

The German and French regiment of infantry, made up of three battalions, is 3,000 men strong; one help-station for each is provided and considered sufficient. Our formation corresponding in number to the above regiment is the brigade which seldom would exceed but often fall short of 3,000 men. Such brigade in battle array would only cover a front of from 300 to 500 yards, and, therefore, obviously needs but one station; to have three or more stations 100 or 200 yards apart would be a waste of means and detrimental to the wounded.

A medicine wagon containing the supplies of the help-station and carrying the regimental stretchers should follow each brigade to the field, and advance to the station or as near it as possible.

The depot of the Ambulance Brigade constitutes the second line of help. It is the centre and rallying point of the brigade. Here, as a battle becomes impending, all the ambulances which followed the regiments on the march rejoin the brigade train. If no suitable building can be found, the grounds are cleared by the



attendants and hospital tents pitched; the necessary medicines and appliances are drawn from the wagons and held in readiness.

The stretcher-bearers are divided into as many platoons as there are help-stations; each platoon, under command of a lieutenant or the senior chief of section, marches toward its assigned station, followed by a picket of ambulances; these are driven as near the station as possible; as soon as halted, the bearers remove the stretchers and with them proceed to the front, or else first carry off the wounded collected at the help-station.

The patients brought to the depot are carefully but rapidly examined, and assorted according to their injuries; one surgeon applies simple dressings, a second attends to serious wounds, a third, with assistants, performs urgent operations. The diagnostic red and white tags used in Germany, France and Italy could advantageously be introduced in our service. Encumbrance must be avoided by sending the wounded to the rear as soon as attended to, beginning with the less severely hurt. If circumstances permit, a field hospital, or section thereof, moves up to the depot after the battle so as to spare grave and desperate cases the danger of transportation.

At what distance in the rear should the ambulance depot be established?

We have seen that at 600 yards behind the firing line one was practically safe from bullets; at the distance of about a mile, rather less than more, we shall not only be beyond the range of musketry fire but also beyond the aim of artillery projectiles, and there seems the proper place for the depot. Whatever danger there may be at this distance is reduced to a minimum by a judicious selection of the spot, availing ourselves of any shelter, natural or artificial, which the grounds may afford.

The field hospitals form the third line of help. They should be at an absolutely safe distance from the scene of conflict, that is two or three miles behind the ambulance depot, and have a free outlet toward the line of evacuation. There should be three provided for a division, all completely equipped. Each accommodates 200 patients and is divisible in two equal sections. It will be sufficient to mobilize two of them on entering the field; the third one can remain at the hospital depot whence, in case of need, it can be rapidly forwarded. It is essential that at least one hospital, or section thereof, be always able to move close behind



its respective division ; the others follow as soon as their inmates can be disposed of.

Of the various matters touched upon in this paper, one more than any other, claims our immediate attention, namely, the necessity of instructing stretcher-bearers. Each regiment of Federal or State troops should at all times have a sufficient number of qualified bearers for emergencies. This seems a reasonable proposition, but one to the importance of which no proper attention has yet been paid in this country. If a riot breaking out to-morrow should cause the Army or National Guard to be called out, it is but too certain that the wounded would have to undergo the torture and danger of being handled by untrained and inexperienced troopers. Considering the ease with which the necessary instruction is imparted, its immense value in war and great usefulness at all times, there seems no reason why, in this respect, we should lag so far behind other civilized nations.